

## ANNEX IV

**Draft Annex IV to draft Commission Regulation (EU) .../... amending Regulation (EU) 2017/373 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, and Regulation (EU) No 139/2014 laying down requirements and administrative procedures related to aerodromes**

ANNEX V — SPECIFIC REQUIREMENTS FOR PROVIDERS OF METEOROLOGICAL SERVICES (Part-MET) to Regulation (EU) 2017/373 is amended as follows:

1. The terms ‘message’ and ‘messages’ are deleted in ‘AIRMET message’ and ‘AIRMET messages’, respectively, and reads ‘AIRMET’ in: MET.OR.240(a)(6), MET.OR.255 (title), (a), (b) and (c), MET.OR.260(c), MET.TR.255 (title), (b) and (d) and MET.OR.260(c).
2. The terms ‘message’ and ‘messages’ are deleted in ‘SIGMET message’ and ‘SIGMET messages’, respectively, and reads ‘SIGMET’ in: MET.OR.250 (title), (a), (b), and (c), and MET.TR.250 (title), (b), (c), (d), and (e).
3. The term ‘local routine and local special reports’ is replaced and reads ‘local routine report and local special report’ in: MET.TR.200(b), MET.TR.205(a)(3)(iii)(A), MET.TR.205(b)(3), MET.TR.205(c)(3) and (4), MET.TR.205(d)(1), MET.TR.205(e)(3), MET.TR.205(f)(3), MET.TR.205(g)(3), and MET.TR.210(a)(3)(i).
4. The term ‘local routine and special reports’ is replaced and reads ‘local routine report and local special report’ in: MET.TR.210(c)(4)(ii)(A).
5. In MET.OR.115, the word ‘internet’ with lower-case ‘i’ is replaced with the word ‘Internet’ with upper-case ‘I’.
6. MET.OR.120 is replaced as follows:

**‘MET.OR.120 Notification of discrepancies to the world area forecast centres (WAFCs)**

The meteorological services provider using WAFS SIGWX in binary universal form for the representation of meteorological data (BUFR) code form shall notify the WAFS concerned immediately if significant discrepancies are detected or reported in respect of WAFS SIGWX forecasts concerning:

- (a) icing, turbulence, cumulonimbus clouds that are obscured, frequent, embedded, or occurring at a squall line, and sandstorms/dust storms; and
  - (b) volcanic eruptions or a release of radioactive materials into the atmosphere of significance to aircraft operations.’.
7. The phrase ‘At aerodromes serving scheduled international commercial air transport operations,’ is deleted from the introductory sentence in MET.OR.205 and MET.OR.210.



8. MET.OR.215(e)(5) is replaced as follows:

‘SIGMET, and, when issued, AIRMET and appropriate special air-reports relevant to the whole route;’.
9. In MET.OR.240(a)(2), the word ‘forecasts’ after ‘TREND’ is deleted.
10. MET.OR.242 is amended as follows:
  - (a) Point (a)(1), is replaced as follows:

‘local routine report, local special report, METAR, TAF and TREND and amendments thereto;’.
  - (b) Point (a)(2) is replaced as follows:

‘SIGMET, AIRMET, wind shear warnings and alerts and aerodrome warnings;’
  - (c) Point (b)(1) is replaced as follows.

‘local routine report, local special report, METAR, TAF and TREND and amendments thereto;’ and
  - (d) Point (b)(2) is replaced as follows:

‘SIGMET, AIRMET, wind shear warnings and alerts, appropriate special air-reports and aerodrome warnings;’
11. MET.OR.245 is amended as follows:
  - (a) In point (b), the term ‘messages’ after ‘ASHTAM’ is deleted.
  - (b) Point (f)(1) is replaced as follows:

‘METAR, including current pressure data for aerodromes and other locations, TAF, TREND and amendments thereto;’
  - (c) Point (f)(2) is replaced as follows:

‘forecasts of upper winds, upper-air temperatures and significant en-route weather phenomena and amendments thereto, SIGMET, AIRMET and appropriate special air-reports;’
  - (d) In point (f)(6), the word ‘information’ is deleted.
  - (e) In point (f)(7), the word ‘information’ is deleted.
12. MET.OR.250(d) is replaced as follows:

‘ensure that SIGMET are issued not more than 4 hours before the commencement of the period of validity. In the special case of SIGMET for volcanic ash cloud and tropical cyclones, SIGMET shall be issued as soon as practicable, but not more than 12 hours before the commencement of the period of validity, and updated at least every 6 hours.’.

13. MET.OR.265(a)(4) is replaced as follows:

‘WAFCs, international OPMET databanks, international NOTAM offices and centres designated by regional air navigation agreement for the operation of the aeronautical fixed service Internet-based services;’.

14. MET.OR.270 is amended as follows:

(a) In the introductory sentence, the word ‘issue’ is replaced by the word ‘provide’.

(b) Point (a)(3) is replaced as follows:

‘WAFCs, international OPMET databanks and centres responsible for the operation of the aeronautical fixed service Internet-based services;’.

15. MET.TR.200(a) is replaced as follows:

‘Local routine report, local special report and METAR shall contain the following elements in the order indicated:’.

16. MET.TR.205 is amended as follows:

(a) Point (a)(1) is replaced as follows:

‘In local routine report, local special report and METAR, the surface wind direction and speed shall be reported in steps of 10 degrees true and 1 kt (0,5 m/s) respectively.’.

(b) In point (a)(3), the introductory sentence is replaced as follows:

‘In local routine report, local special report and METAR:’.

(c) Point (b)(1) is replaced as follows:

‘In local routine report, local special report and METAR, the visibility shall be reported in steps of 50 m when the visibility is less than 800 m; in steps of 100 m when it is 800 m or more, but less than 5 km; in kilometre steps when the visibility is 5 km or more, but less than 10 km; and it shall be given as 10 km when the visibility is 10 km or more, except when the conditions for the use of CAVOK apply.’.

(d) Point (c)(1) is replaced as follows:

‘In local routine report, local special report and METAR, the RVR shall be reported in steps of 25 m when it is less than 400 m; in steps of 50 m when it is between 400 and 800 m; and in steps of 100 m when it is more than 800 m.’.

(e) In point (c)(3), the introductory sentence is replaced as follows:

‘In local routine report, local special report and METAR:’.

(f) In point (d)(3), the introductory sentence is replaced as follows:

‘In local routine report, local special report and METAR, the following characteristics of present weather phenomena, as necessary, shall be reported using their respective abbreviations and relevant criteria, as appropriate.’.

(g) In point (d)(4), the introductory sentence is replaced as follows:

‘In local routine report, local special report and METAR:’.

- (h) Point (e)(1) is replaced as follows:

‘In local routine report, local special report and METAR, the height of cloud base shall be reported in steps of 100 ft (30 m) up to 10 000 ft (3 000 m) and in steps of 1 000 ft (300 m) above 10 000 ft (3 000 m).’.

- (i) Point (f)(1) is replaced as follows:

‘In local routine report, local special report and METAR, the air temperature and the dew-point temperature shall be reported in steps of whole degrees Celsius.’.

- (j) Point (f)(3) is replaced as follows:

‘In local routine report, local special report and METAR, a temperature below 0 °C shall be identified.’.

- (k) Point (g)(1) is replaced as follows:

‘In local routine report, local special report and METAR, the QNH and QFE shall be computed in tenths of hectopascals and reported therein in steps of whole hectopascals, using four digits.’.

17. MET.TR.215(g) is replaced as follows:

‘When forecasts of upper-wind and upper-air temperature listed under MET.OR.275(a)(1) are supplied in chart form, they shall be fixed-time prognostic charts for flight levels as specified in MET.TR.275(b)(3). When forecasts of SIGWX phenomena listed under MET.OR.275(a)(2) are supplied in chart form, they shall be fixed-time prognostic charts for an atmospheric layer limited by flight levels as specified in MET.TR.275(c) and MET.TR.275(d).’.

18. MET.TR.220 is amended as follows:

- (a) Point (c) is replaced as follows:

‘The period of validity of a routine TAF shall be either 9 or 24 or 30 hours and shall be filed for transmission not earlier than 1 hour before the commencement of the validity of the TAF.’.

- (b) Point (d) is replaced as follows:

‘TAF, if disseminated in digital form, shall be:

- (1) formatted in accordance with a globally interoperable information exchange model and shall use geography markup language (GML);
- (2) accompanied by the appropriate metadata.’.

- (c) In point (g)(1), the ‘%’ symbol is added after ‘30’.

- (d) In point (g)(2), the ‘%’ symbol is added after ‘30’.

19. MET.TR.250 is amended as follows:

- (a) Point (a) is replaced as follows:

‘The content and order of elements in a SIGMET shall be in accordance with the template shown in Appendix 5A.’.

(b) In point (b)(1), (2) and (3), the term ‘referred as WS SIGMET’ is deleted;

(c) Point (d) is replaced as follows:

‘Only one of the phenomena listed in Appendix 5A shall be included in a SIGMET, using the appropriate abbreviations and the following threshold value of surface wind speed of 34 kt (17 m/s) or more for tropical cyclone.’.

(d) In point (e), the word ‘information’ after ‘SIGMET’ is deleted.

20. MET.TR.255 is amended as follows:

(a) Point (a) is replaced as follows:

‘The content and order of elements in an AIRMET shall be in accordance with the template shown in Appendix 5A.’.

(b) Point (c) is replaced as follows:

‘Only one of the phenomena in Appendix 5A shall be included in an AIRMET, using the appropriate abbreviations and the following threshold values, when the phenomenon is below flight level 100, or below flight level 150 in mountainous areas, or higher, where necessary:

- (1) widespread surface wind speed above 30 kt (15 m/s) with relevant direction and units;
- (2) widespread areas affected by reduction of visibility to less than 5 000 m, including the weather phenomenon causing the reduction of visibility;
- (3) widespread areas of broken or overcast cloud with height of base less than 1 000 ft (300 m) above ground level.’.

(c) New point (e) is added as follows:

‘AIRMET, if disseminated in digital form, shall be:

- (1) formatted in accordance with a globally interoperable information exchange model and shall use geography markup language (GML);
- (2) accompanied by the appropriate metadata.’.

21. MET.TR.265 is replaced as follows:

**‘MET.TR.265 Volcanic ash advisory centre responsibilities**

(a) The advisory information on volcanic ash shall be issued in abbreviated plain language and in accordance with the template shown in Appendix 6. When no abbreviations are available, English plain language text, to be kept to a minimum, shall be used.

(b) Volcanic ash advisory, if disseminated in digital form, shall be:

- (1) formatted in accordance with a globally interoperable information exchange model and shall use geography markup language (GML);
- (2) accompanied by the appropriate metadata.
- (c) Volcanic ash advisory information, when prepared in graphical format, shall be issued using the portable network graphics (PNG) format.’.

22. In MET.TR.270, new points (c) and (d) are added as follows:

- ‘(c) Tropical cyclone advisory, if disseminated in digital form, shall be:
  - (1) formatted in accordance with a globally interoperable information exchange model and shall use geography markup language (GML);
  - (2) accompanied by the appropriate metadata.
- (d) Tropical cyclone advisory information, when prepared in graphical format, shall be issued using the portable network graphics (PNG) format.’.

23. MET.TR.275 is amended as follows:

- (a) Point (3)(i) is replaced as follows:
 

‘wind data for flight levels 50 (850 hPa), 80 (750 hPa), 100 (700 hPa), 140 (600 hPa), 180 (500 hPa), 210 (450 hPa), 240 (400 hPa), 270 (350 hPa), 300 (300 hPa), 320 (275 hPa), 340 (250 hPa), 360 (225 hPa), 390 (200 hPa), 410 (175 hPa), 450 (150 hPa), 480 (125 hPa) and 530 (100 hPa);’
- (b) Point (3)(ii) is replaced as follows:
 

‘temperature data for flight levels 50 (850 hPa), 80 (750 hPa), 100 (700 hPa), 140 (600 hPa), 180 (500 hPa), 210 (450 hPa), 240 (400 hPa), 270 (350 hPa), 300 (300 hPa), 320 (275 hPa), 340 (250 hPa), 360 (225 hPa), 390 (200 hPa), 410 (175 hPa), 450 (150 hPa), 480 (125 hPa) and 530 (100 hPa);’
- (c) Point (3)(iii) is replaced as follows:
 

‘humidity data for flight levels 50 (850 hPa), 80 (750 hPa), 100 (700 hPa), 140 (600 hPa) and 180 (500 hPa);’
- (d) Point (3)(viii) is replaced as follows:
 

‘geopotential altitude data for flight levels 50 (850 hPa), 80 (750 hPa), 100 (700 hPa), 140 (600 hPa), 180 (500 hPa), 210 (450 hPa), 240 (400 hPa), 270 (350 hPa), 300 (300 hPa), 320 (275 hPa), 340 (250 hPa), 360 (225 hPa), 390 (200 hPa), 410 (175 hPa), 450 (150 hPa), 480 (125 hPa) and 530 (100 hPa).’

24. Appendix 1 is replaced as follows:

*‘Appendix 1*

# Template for METAR

Key:

M = inclusion mandatory;

C = inclusion conditional, dependent on meteorological conditions or method of observation;

O = inclusion optional.

*Note 1: the ranges and resolutions for the numerical elements included in METAR are provided in a separate table below this template.*

*Note 2: the explanations for the abbreviations can be found in ICAO Document 8400 ‘Procedures for Air Navigation Services — Abbreviations and Codes (PANS-ABC).*

Element	Detailed content	Template(s)		Examples
Identification of the type of report (M)	Type of report (M)	METAR, METAR COR,		METAR METAR COR
Location indicator (M)	ICAO location indicator (M)	nnnn		YUDO
Time of the observation (M)	Day and actual time of the observation in UTC (M)	nnnnnnZ		221630Z
Identification of an automated or missing report (C)	Automated <i>or</i> missing report identifier (C)	AUTO <i>or</i> NIL		AUTO NIL
END OF METAR IF THE REPORT IS MISSING.				
Surface wind (M)	Wind direction (M)	nnn	VRB	24004MPS VRB01MPS
	Wind speed (M)	[P]nn[n]		(24008KT) (VRB02KT) 19006MPS (19012KT) 00000MPS (00000KT) 140P49MPS (140P99KT)



	Significant speed variations (C)	G[P]nn[n]			12003G09MPS (12006G18KT)
	Units of measurement (M)	MPS ( <i>or</i> KT)			24008G14MPS (24016G28KT)
	Significant directional variations (C)	nnnVnnn	—		02005MPS 350V070 (02010KT 350V070)
Visibility (M)	Prevailing <i>or</i> minimum visibility (M)	nnnn			C A V O K  0350 CAVOK 7000 9999 0800
	Minimum visibility and direction of the minimum visibility (C)	nnnn[N] <i>or</i> nnnn[NE] <i>or</i> nnnn[E] <i>or</i> nnnn[SE] <i>or</i> nnnn[S] <i>or</i> nnnn[SW] <i>or</i> nnnn[W] <i>or</i> nnnn[NW]			
Runway visual range (C) <sup>1</sup>	Name of the element (M)	R			R32/0400 R12R/1700
	Runway (M)	nn[L]/ <i>or</i> nn[C]/ <i>or</i> nn[R]/			R16L/0650 R16C/0500 R16R/0450 R17L/0450
	Runway visual range (M)	[P <i>or</i> M]nnnn			R14L/P2000 R10/M0050
	Runway visual range past tendency (C)	U, D <i>or</i> N			R12/1100U R26/0550N R20/0800D R12/0700
Present weather	Intensity <i>or</i> proximity of present weather (C)	– <i>or</i> +	—	VC	

(C)	Characteristics and type of present weather (M)	DZ or RA or SN or SG or PL or DS or SS or FZDZ or FZRA or FZUP or FC <sup>2</sup> or SHGR or SHGS or SHRA or SHSN or SHUP or TSGR or TSGS or TSRA or TSSN or TSUP or UP	FG or BR or SA or DU or HZ or FU or VA or SQ or PO or TS or BCFG or BLDU or BLSA or BLSN or DRDU or DRSA or DRSN or FZFG or MIFG or PRFG  or //	FG or PO or FC or DS or SS or TS or SH or BLSN or BLSA or BLDU or VA	RA HZ VCFG +TSRA FG VCSH +DZ VA VCTS -SN MIFG VCBLSA  +TSRASN -SNRA  DZ FG +SHSN BLSN UP FZUP TSUP FZUP  //
Cloud (M)	Cloud amount and height of cloud base or vertical visibility (M)	FEWnnn or SCTnnn or BKNnnn or OVCnnn or FEW/// or SCT/// or BKN/// or OVC/// or ///nnn or /////	VVnnn or VV///	NSC or NCD	FEW015 VV005 OVC030 VV/// NSC  SCT010 OVC020  BKN/// /////015
	Cloud type (C)	CB or TCU or ///	—		BKN009TCU NCD SCT008 BKN025CB BKN025/// /////CB

Air and dew-point temperature (M)	Air and dew-point temperature (M)	[M]nn/[M]nn			17/10 02/M08 M01/M10
Pressure values (M)	Name of the element (M)	Q			Q0995
	QNH (M)	nnnn			Q1009 Q1022 Q0987
Supplementary information (C)	Recent weather (C)	REFZDZ <i>or</i> REFZRA <i>or</i> REDZ <i>or</i> RE[SH]RA <i>or</i> RERASN <i>or</i> RE[SH]SN <i>or</i> RESG <i>or</i> RESHGR <i>or</i> RESHGS <i>or</i> REBLSN <i>or</i> RESS <i>or</i> REDS <i>or</i> RETSRA <i>or</i> RETSSN <i>or</i> RETSGR <i>or</i> RETSGS <i>or</i> RETS <i>or</i> REFC <i>or</i> REVA <i>or</i> REPL <i>or</i> REUP <i>or</i> REFZUP <i>or</i> RETSUP <i>or</i> RESHUP			REFZRA RETSRA
	Wind shear (C)	WS Rnn[L] <i>or</i> WS Rnn[C] <i>or</i> WS Rnn[R] <i>or</i> WS ALL RWY			WS R03 WS ALL RWY WS R18C
	Sea–surface temperature and state of the sea or significant wave height (C)	W[M]nn/Sn <i>or</i> W[M]nn/Hn[n][n]			W15/S2 W12/H75
	State of the runway (C)	Runway designator (M)	R nn[L]/ <i>or</i> Rnn[C]/ <i>or</i> Rnn[R]/		R/SNOCLO  R99/421594 R/SNOCLO R14L/CLRD//
		Runway deposits (M)	n <i>or</i> /	CLRD//	
		Extent of runway contamination (M)	n <i>or</i> /		
		Depth of deposit (M)	nn <i>or</i> //		
		Friction coefficient or braking action (M)	nn <i>or</i> //		
Trend forecast (O)	Change indicator (M)	NOSIG	BECMG <i>or</i> TEMPO		NOSIG

Period of change (C)	FMnnnn <i>and/or</i> TLnnnn <i>or</i> ATnnnn	BECMG FEW020  TEMPO 25018G25MPS (TEMPO 25036G50KT)		
Wind (C)	nnn[P]nn[n][G[P]nn[n]]MPS ( <i>or</i> nnn[P]nn[G[P]nn]KT)	BECMG	FM1030	TL1130 CAVOK
Prevailing visibility (C)	nnnn	C A V O K	BECMG TL1700 0800 FG	
			BECMG AT1800 9000 NSW	
			BECMG FM1900 0500 +SNRA	
			BECMG FM1100 SN TEMPO FM1130 BLSN	
			TEMPO FM0330 TL0430 FZRA	
Weather phenomenon: intensity (C)	– <i>or</i> +	—	N S W	TEMPO TL1200 0600 BECMG AT1200 8000 NSW NSC
Weather phenomenon: characteristics and type (C)	DZ <i>or</i> RA <i>or</i> SN <i>or</i> SG <i>or</i> PL <i>or</i> DS <i>or</i> SS <i>or</i> FZDZ <i>or</i> FZRA <i>or</i> SHGR <i>or</i> SHGS <i>or</i> SHRA <i>or</i> SHSN <i>or</i> TSGR <i>or</i> TSGS <i>or</i> TSRA <i>or</i> TSSN	FG <i>or</i> BR <i>or</i> SA <i>or</i> DU <i>or</i> HZ <i>or</i> FU <i>or</i> VA <i>or</i> SQ <i>or</i> PO <i>or</i> FC <i>or</i> TS <i>or</i> BCFG <i>or</i> BLDU <i>or</i> BLSA <i>or</i> BLSN <i>or</i> DRDU <i>or</i> DRSA <i>or</i> DRSN <i>or</i> FZFG <i>or</i> MIFG <i>or</i> PRFG		BECMG AT1130 OVC010  TEMPO TL1530 +SHRA BKN012CB

	Cloud amount and height of cloud base <i>or</i> vertical visibility (C)	FEWnnn <i>or</i> SCTnnn  <i>or</i> BKNnnn  <i>or</i> OVCnnn	VVnnn <i>or</i> VV///	N  S  C		
	Cloud type (C)	CB <i>or</i> — TCU				

(<sup>1</sup>) To be included if visibility or runway visual range is < 1 500 m; for up to a maximum of four runways.

(<sup>2</sup>) 'Heavy' used to indicate 'tornado' or 'waterspout'; 'moderate' (no qualifier) to indicate 'funnel cloud not reaching the ground'.

Ranges and resolutions for the numerical elements included in METAR			
<i>Elements</i>		<i>Range</i>	<i>Resolution</i>
Runway:	(no units)	01–36	1
Wind direction:	°true	000–360	10
Wind speed:	MPS	00–99	1
	KT	00–199	1
Visibility:	M	0000–0750	50
	M	0800–4 900	100
	M	5 000–9 000	1 000
	M	10 000–	0 (fixed value: 9 999)
Runway visual range:	M	0000–0375	25
	M	0400–0750	50
	M	0800–2 000	100
Vertical visibility:	30's M (100's FT)	000–020	1
Clouds: height of cloud base:	30's M (100's FT)	000–099	1
		100–200	10
Air temperature; Dew-point temperature:	°C	–80 – +60	1
QNH:	hPa	0850–1 100	1
Sea–surface temperature:	°C	–10 – +40	1
State of the sea:	(no units)	0–9	1
Significant wave height:	M	0–999	0,1
State of the runway	Runway designator:	(no units)	01–36; 88; 99
	Runway deposits:	(no units)	0–9
	Extent of runway contamination:	(no units)	1; 2; 5; 9
	Depth of deposit:	(no units)	00–90; 92–99
	Friction coefficient/braking action:	(no units)	00–95; 99
* There is no aeronautical requirement to report surface wind speeds of 100 kt (50 m/s) or more; however, provision has been made for reporting wind speeds up to 199 kt (99 m/s) for non-aeronautical purposes, as necessary.			

25. Appendix 3 is replaced as follows:

*‘Appendix 3*

<b>Template for TAF</b>			
<b>Key:</b> M = inclusion mandatory; C = inclusion conditional, dependent on meteorological conditions or method of observation; O = inclusion optional. <i>Note 1: the ranges and resolutions for the numerical elements included in TAF are provided in a separate table below this template.</i> <i>Note 2: the explanations for the abbreviations can be found in ICAO Doc 8400 ‘Procedures for Air Navigation Services — Abbreviations and Codes (PANS-ABC)’.</i>			
<i>Element</i>	<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
Identification of the type of forecast (M)	Type of forecast (M)	TAF <i>or</i> TAF AMD <i>or</i> TAF COR	TAF TAF AMD TAF COR
Location indicator (M)	ICAO location indicator (M)	nnnn	YUDO
Time of issue of forecast (M)	Day and time of issue of the forecast in UTC (M)	nnnnnnZ	160000Z
Identification of a missing forecast (C)	Missing forecast identifier (C)	NIL	NIL
END OF TAF IF THE FORECAST IS MISSING			
Days and period of validity of forecast (M)	Days and period of validity of the forecast in UTC (M)	nnnn/nnnn	0812/0918
Identification of a cancelled forecast (C)	Cancelled forecast identifier (C)	CNL	CNL
END OF TAF IF THE FORECAST IS CANCELLED			
Surface wind (M)	Wind direction (M)	nnn <i>or</i> VRB	24004MPS; VRB01MPS (24008KT); (VRB02KT) 19005MPS

<i>Element</i>	<i>Detailed content</i>	<i>Template(s)</i>		<i>Examples</i>
				(19010KT)
	Wind speed (M)	[P]nn[n]		00000MPS (00000KT) 140P49MPS (140P99KT)
	Significant speed variations (C)	G[P]nn[n]		12003G09MPS (12006G18KT)
	Units of measurement (M)	MPS (or KT)		24008G14MPS (24016G28KT)
Visibility (M)	Prevailing visibility (M)	nnnn		C 0350 A CAVOK V 7000 O 9000 K 9999
Weather (C)	Intensity of weather phenomena (C) <sup>1</sup>	– or +	—	
	Characteristics and type of weather phenomena (C)	DZ or RA or SN or SG or PL or DS or SS or FZDZ or FZRA or SHGR or SHGS or SHRA or SHSN or TSGR or TSGS or TSRA or TSSN	FG or BR or SA or DU or HZ or FU or VA or SQ or PO or FC or TS or BCFG or BLDU or BLSA or BLSN or DRDU or DRSA or DRSN or FZFG or MIFG or PRFG	
Cloud (M) <sup>2</sup>	Cloud amount and height of base or vertical visibility (M)	FEWnnn or SCTnnn	VVnnn or VV///	NSC  FEW010 VV005 OVC020



Element	Detailed content	Template(s)				Examples
		or BKNnnn or OVCnnn				VV///  NSC  SCT005 BKN012
	Cloud type (C)	CB    or    — TCU				SCT008 BKN025CB
Temperature (O) <sup>3</sup>	Name of the element (M)	TX				TX25/1013Z TN09/1005Z  TX05/2112Z TNM02/2103Z
	Maximum temperature (M)	[M]nn/				
	Day and time of occurrence of the maximum temperature (M)	nnnnZ				
	Name of the element (M)	TN				
	Minimum temperature (M)	[M]nn/				
	Day and time of occurrence of the minimum temperature (M)	nnnnZ				
Expected significant changes to one or more of the above elements during the period of validity (C)	Change probability indicator (M)	PROB30 [TEMPO] or PROB40 [TEMPO] or BECMG or TEMPO or FM				TEMPO 0815/0818 25017G25MPS (TEMPO 0815/0818 25034G50KT)  TEMPO 2212/2214 17006G13MPS 1000  TSRA SCT010CB BKN020 (TEMPO 2212/2214 17012G26KT 1000 TSRA SCT010CB BKN020)
	Period of occurrence or change (M)	nnnn/nnnn or nnnnnn				
	Wind (C)	nnn[P]nn[n][G[P]nn[n]]MPS  or  VRBnnMPS  (or nnn[P]nn[G[P]nn]KT  or  VRBnnKT)				

<i>Element</i>	<i>Detailed content</i>	<i>Template(s)</i>			<i>Examples</i>
	Prevailing visibility (C)	nnnn			C A V O K BECMG 3010/3011 00000MPS 2400 OVC010 (BECMG 3010/3011 00000KT 2400 OVC010) PROB30 1412/1414 0800 FG  BECMG 1412/1414 RA TEMPO 2503/2504 FZRA  TEMPO 0612/0615 BLSN  PROB40 TEMPO 2923/3001 0500 FG
	Weather phenomenon: intensity (C)	– or +	—	NSW	
	Weather phenomenon: characteristics and type (C)	DZ or RA or SN or SG or PL or DS or SS or FZDZ or FZRA or SHGR or SHGS or SHRA or SHSN or TSGR or TSGS or TSRA or TSSN	FG or BR or SA or DU or HZ or FU or VA or SQ or PO or FC or TS or BCFG or BLDU or BLSA or BLSN or DRDU or DRSA or DRSN or FZFG or MIFG or PRFG		
	Cloud amount and height of base or vertical visibility (C)	FEWnnn or SCTnnn or BKNnnn or	VVnnn or VV///	NSC	FM051230 15004MPS 9999 BKN020 (FM051230 15008KT 9999 BKN020)  BECMG 1618/1620 8000 NSW NSC

<i>Element</i>	<i>Detailed content</i>	<i>Template(s)</i>				<i>Examples</i>
		OVCnnn				BECMG 2306/2308 SCT015CB BKN020
	Cloud type (C)	CB or TCU	—			

(<sup>1</sup>) To be included whenever applicable. No qualifier for moderate intensity.

(<sup>2</sup>) Up to four cloud layers.

(<sup>3</sup>) Consisting of up to a maximum of four temperatures (two maximum temperatures and two minimum temperatures).

<b>Ranges and resolutions for the numerical elements included in TAF</b>		
<i>Elements</i>	<i>Range</i>	<i>Resolution</i>
Wind direction: ° true	000–360	10
Wind speed: MPS	00–99*	1
KT	0–199*	1
Visibility: M	0000–0750	50
M	0800–4 900	100
M	5 000–9 000	1 000
M	10 000 –	0 (fixed value: 9 999)
Vertical visibility: 30's M (100's FT)	000–020	1
Cloud: height of cloud base: 30's M (100's FT)	000–099	1
	100–200	10
Air temperature (maximum and minimum): °C	–80 – +60	1
* There is no aeronautical requirement to report surface wind speeds of 100 kt (50 m/s) or more; however, provision has been made for reporting wind speeds up to 199 kt (99 m/s) for non-aeronautical purposes, as necessary.		

26. Appendix 4 is replaced as follows:

*‘Appendix 4*

<b>Template for wind shear warnings</b>			
<b>Key:</b> M = inclusion mandatory; C = inclusion conditional, whenever applicable. <i>Note 1: the ranges and resolutions for the numerical elements included in wind shear warnings are shown in Appendix 8.</i> <i>Note 2: the explanations for the abbreviations can be found in ICAO Doc 8400 ‘Procedures for Air Navigation Services — Abbreviations and Codes (PANS-ABC)’</i>			
<i>Element</i>	<i>Detailed content</i>	<i>Template(s)</i>	<i>Example</i>
Location indicator of the aerodrome (M)	Location indicator of the aerodrome	nnnn	YUCC
Identification of the type of message (M)	Type of message and sequence number	WS WRNG [n]n	WS WRNG 1
Time of origin and validity period (M)	Day and time of issue and, where applicable, validity period in UTC	nnnnnn [VALID TL nnnnnn] <i>or</i> [VALID nnnnnn/nnnnnn]	211230 VALID TL 211330  221200 VALID 221215/221315
IF THE WIND SHEAR WARNING IS TO BE CANCELLED, SEE DETAILS AT THE END OF THE TEMPLATE			
Phenomenon (M)	Identification of the phenomenon and its location	[MOD] <i>or</i> [SEV] WS IN APCH <i>or</i> [MOD] <i>or</i> [SEV] WS [APCH] RWYnnn <i>or</i> [MOD] <i>or</i> [SEV] WS IN CLIMB-OUT <i>or</i> [MOD] <i>or</i> [SEV] WS CLIMB-OUT RWYnnn <i>or</i> MBST IN APCH <i>or</i> MBST [APCH] RWYnnn <i>or</i> MBST IN CLIMB-OUT <i>or</i> MBST CLIMB-OUT RWYnnn	WS APCH RWY12 MOD WS RWY34  WS IN CLIMB-OUT  MBST APCH RWY26  MBST IN CLIMB-OUT
Observed, reported or forecast phenomenon (M)	Identification whether the phenomenon is observed or reported and expected to continue, or forecast	REP AT nnnn nnnnnnnn <i>or</i> OBS [AT nnnn] <i>or</i> FCST	REP AT 1510 B747 OBS AT 1205 FCST

<i>Element</i>	<i>Detailed content</i>	<i>Template(s)</i>	<i>Example</i>
Details of the phenomenon (C)	Description of phenomenon causing the issuance of the wind shear warning	SFC WIND: nnn/nnMPS (or nnn/nnKT) nnnM (nnnFT)-WIND: nnn/nnMPS (or nnn/nnKT)  or  nnKMH (or nnKT) LOSS nnKM (or nnNM) FNA RWYnn  or  nnKMH (or nnKT) GAIN nnKM (or nnNM) FNA RWYnn	SFC WIND: 320/5MPS 60M-WIND: 360/13MPS (SFC WIND: 320/10KT 200FT-WIND: 360/26KT)  60KMH LOSS 4KM FNA RWY13 (30KT LOSS 2NM FNA RWY13)

OR

Cancellation of wind shear warning	Cancellation of wind shear warning referring to its identification	CNL WS WRNG [n]n nnnnnn/nnnnnn	CNL WS WRNG 1 211230/211330
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27. Appendix 5 is replaced as follows:

*Appendix 5A*

<b>Template for SIGMET and AIRMET</b>					
<b>Key:</b> M = inclusion mandatory; C = inclusion conditional, whenever applicable; and = = a double line indicates that the text following it should be placed on the subsequent line. <i>Note: the ranges and resolutions for the numerical elements included in SIGMET/AIRMET are shown in Appendix 8.</i>					
<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
Location indicator of FIR/CTA (M)	ICAO location indicator of the ATS unit serving the FIR or CTA to which the SIGMET/AIRMET refers	nnnn		YUCC YUDD	
Identification (M)	SIGMET or AIRMET identification and sequence number	SIGMET nnn	AIRMET [n][n]n	SIGMET U05 SIGMET I12	AIRMET 2 AIRMET 19 AIRMET B19
Validity period (M)	Day-time groups indicating the period of validity in UTC	VALID nnnnnn/nnnnnn		VALID 010000/010400 VALID 221215/221600 VALID 101520/101800 VALID 251600/252200 VALID 152000/160000 VALID 192300/200300	
Location indicator of MWO (M)	Location indicator of MWO originating the SIGMET or AIRMET with a separating hyphen	nnnn–		YUDO– YUSO–	
Name of the FIR/CTA (M)	Location indicator and name of the FIR/CTA for which the SIGMET/AIRMET is issued	nnnn nnnnnnnnnn FIR[/UIR] or nnnn nnnnnnnnnn CTA	nnnn nnnnnnnnnn FIR[/n]	YUCC AMSWELL FIR YUDD SHANLON FIR/UIR YUDD SHANLON CTA	YUCC AMSWELL FIR/2 YUDD SHANLON FIR

<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
IF THE SIGMET IS TO BE CANCELLED, SEE DETAILS AT THE END OF THE TEMPLATE					
Phenomenon (M)	Description of the phenomenon causing the issuance of SIGMET/AIRMET	OBSC TS[GR] EMBD TS[GR] FRQ TS[GR] SQL TS[GR]  TC nnnnnnnnnn PSN Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] CB or TC NN PSN Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] CB  SEV TURB SEV ICE SEV ICE (FZRA) SEV MTW  HVY DS HVY SS  [VA ERUPTION] [MT nnnnnnnnnn] [PSN Nnn[nn] or Snn[nn] Ennn[nn] or Wnnn[nn]] VA CLD  RDOACT CLD	SFC WIND nnn/nn[n]MPS (or SFC WIND nnn/nn[n]KT)  SFC VIS nnnnM (nn)  ISOL TS[GR] OCNL TS[GR]  MT OBSC  BKN CLD nnn/[ABV]nnnnM (or BKN CLD nnn/[ABV][n]nnnnF T) or BKN CLD SFC/[ABV]nnnnM (or BKN CLD SFC/[ABV][n]nnnnF T)  OVC CLD nnn/[ABV]nnnnM (or OVC CLD nnn/[ABV][n]nnnnF T) or OVC CLD SFC/[ABV]nnnnM (or OVC CLD SFC/[ABV][n]nnnnF T)  ISOL CB OCNL CB FRQ CB	OBSC TS OBSC TSGR EMBD TS EMBD TSGR FRQ TS FRQ TSGR SQL TS SQL TSGR  TC GLORIA PSN N10 W060 CB TC NN PSN S2030 E06030 CB  SEV TURB SEV ICE SEV ICE (FZRA) SEV MTW  HVY DS HVY SS  VA ERUPTION MT ASHVAL PSN S15 E073 VA CLD  RDOACT CLD	SFC WIND 040/40MPS  SFC WIND 310/20KT  SFC VIS 1500M (BR)  ISOL TS ISOL TSGR OCNL TS OCNL TSGR  MT OBSC  BKN CLD 120/900M BKN CLD 400/3000FT BKN CLD SFC/3000M BKN CLD SFC/ABV10000FT  OVC CLD 270/ABV3000M OVC CLD 900/ABV10000FT OVC CLD SFC/3000M OVC CLD SFC/ABV10000FT  ISOL CB OCNL CB FRQ CB  ISOL TCU OCNL TCU



<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
			ISOL TCU OCNL TCU FRQ TCU  MOD TURB MOD ICE MOD MTW		FRQ TCU  MOD TURB MOD ICE MOD MTW
Observed or forecast phenomenon (M)	Indication whether the information is observed and expected to continue, or forecast	OBS [AT nnnnZ] <i>or</i> FCST [AT nnnnZ]		OBS OBS AT 1210Z FCST FCST AT 1815Z	
Location (C)	Location (referring to latitude and longitude (in degrees and minutes))	Nnn[nn] Wnnn[nn] <i>or</i> Nnn[nn] Ennn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Snn[nn] Ennn[nn]  <i>or</i>  N OF Nnn[nn] <i>or</i> S OF Nnn[nn] <i>or</i> N OF Snn[nn] <i>or</i> S OF Snn[nn] <i>or</i> [AND] W OF Wnnn[nn] <i>or</i> E OF Wnnn[nn] <i>or</i> W OF Ennn[nn] <i>or</i> E OF Ennn[nn]  <i>or</i>  N OF Nnn[nn] <i>or</i> N OF Snn[nn] AND S OF Nnn[nn] <i>or</i> S OF Snn[nn]  <i>or</i>  W OF Wnnn[nn] <i>or</i> W OF Ennn[nn] AND		N2020 W07005 N48 E010 S60 W160 S0530 E16530  N OF N50 S OF N5430 N OF S10 S OF S4530 W OF W155 E OF W45 W OF E15540 E OF E09015  N OF N1515 AND W OF E13530 S OF N45 AND N OF N40  N OF LINE S2520 W11510 – S2520 W12010 SW OF LINE N50 W005 – N60 W020 SW OF LINE N50 W020 – N45 E010 AND NE OF LINE N45 W020 – N40 E010  WI N6030 E02550 – N6055 E02500 – N6050 E02630 – N6030 E02550	

<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
		<p>E OF Wnnn[nn] <i>or</i> E OF Ennn[nn]</p> <p><i>or</i></p> <p>N OF LINE <i>or</i> NE OF LINE <i>or</i> E OF LINE <i>or</i> SE OF LINE <i>or</i> S OF LINE <i>or</i> SW OF LINE <i>or</i> W OF LINE <i>or</i> NW OF LINE Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] – Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] [– Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]] [– Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]] [AND N OF LINE <i>or</i> NE OF LINE <i>or</i> E OF LINE <i>or</i> SE OF LINE <i>or</i> S OF LINE <i>or</i> SW OF LINE <i>or</i> W OF LINE <i>or</i> NW OF LINE Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] – Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] [– Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]] [– Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]]]</p> <p>WI Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] – Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] – Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] – [Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] – Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]] (<sup>4</sup>)</p> <p><i>or</i></p> <p>APRX nnKM WID LINE BTN (<i>or</i> nnNM WID LINE</p> <p>BTN) Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] – Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] [– Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]][– Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]]</p> <p><i>or</i></p> <p>ENTIRE FIR/UIR</p> <p><i>or</i></p> <p>ENTIRE CTA<sup>3</sup></p>		<p>APRX 50KM WID LINE BTN N64 W017 – N60 W010 – N57 E010</p> <p>ENTIRE FIR</p> <p>ENTIRE FIR/UIR</p> <p>ENTIRE CTA</p> <p>WI 400KM OF TC CENTRE</p> <p>WI 250NM OF TC CENTRE</p>	

<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
		<i>or</i>  WI nnnKM (or nnnNM) OF TC CENTRE			
Level (C)	Flight level or altitude	[SFC/]FLnnn <i>or</i> [SFC/]nnnnM ( <i>or</i> [SFC/][n]nnnnFT) <i>or</i> FLnnn/nnn <i>or</i> TOP FLnnn <i>or</i> [TOP] ABV FLnnn <i>or</i> [nnnn/]nnnnM ( <i>or</i> [[n]nnnn/][n]nnnnFT) <i>or</i> [nnnnM/]FLnnn ( <i>or</i> [[n]nnnnFT/]FLnnn)  <i>or</i> ( <sup>1</sup> ) TOP [ABV <i>or</i> BLW] FLnnn		FL180  SFC/FL070 SFC/3000M SFC/10000FT FL050/080 TOP FL390 ABV FL250 TOP ABV FL100 3000M 2000/3000M 8000FT 6000/12000FT 2000M/FL150 10000FT/FL250  TOP FL500 TOP ABV FL500 TOP BLW FL450	
Movement <i>or</i> expected movement (C) ( <sup>5</sup> )	Movement <i>or</i> expected movement (direction and speed) with reference to one of the 16 points of compass, <i>or</i> stationary	MOV N [nnKMH] <i>or</i> MOV NNE [nnKMH] <i>or</i> MOV NE [nnKMH] <i>or</i> MOV ENE [nnKMH] <i>or</i> MOV E [nnKMH] <i>or</i> MOV ESE [nnKMH] <i>or</i> MOV SE [nnKMH] <i>or</i> MOV SSE [nnKMH] <i>or</i> MOV S [nnKMH] <i>or</i> MOV SSW [nnKMH] <i>or</i> MOV SW [nnKMH] <i>or</i> MOV WSW [nnKMH] <i>or</i> MOV W [nnKMH] <i>or</i> MOV WNW [nnKMH] <i>or</i> MOV NW [nnKMH] <i>or</i> MOV NNW [nnKMH] ( <i>or</i> MOV N [nnKT] <i>or</i> MOV NNE [nnKT] <i>or</i> MOV NE [nnKT] <i>or</i> MOV ENE [nnKT] <i>or</i> MOV E [nnKT] <i>or</i> MOV ESE [nnKT] <i>or</i> MOV SE [nnKT] <i>or</i> MOV SSE [nnKT] <i>or</i>		MOV SE MOV NNW MOV E 40KMH MOV E 20KT MOV WSW 20KT STNR	

<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
		MOV S [nnKT] <i>or</i> MOV SSW [nnKT] <i>or</i> MOV SW [nnKT] <i>or</i> MOV WSW [nnKT] <i>or</i> MOV W [nnKT] <i>or</i> MOV WNW [nnKT] <i>or</i> MOV NW [nnKT] <i>or</i> MOV NNW [nnKT])  <i>or</i> STNR			
Changes in intensity (C)	Expected changes in intensity	INTSF <i>or</i> WKN <i>or</i> NC		INTSF WKN NC	
Forecast time (C) <sup>(5)</sup>	Indication of the forecast time of phenomenon	FCST AT nnnnZ	—	FCST AT 2200Z	—
Forecast position (C) <sup>(5)</sup>	Forecast position of volcanic ash cloud or the centre of the tropical cyclone <i>or</i> other hazardous phenomena <sup>6</sup> at the end of the validity period of the SIGMET	Nnn[nn] Wnnn[nn] <i>or</i> Nnn[nn] Ennn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Snn[nn] Ennn[nn]  <i>or</i> N OF Nnn[nn] <i>or</i> S OF Nnn[nn] <i>or</i> N OF Snn[nn] <i>or</i> S OF Snn[nn] [AND] W OF Wnnn[nn] <i>or</i> E OF Wnnn[nn] <i>or</i> W OF Ennn[nn] <i>or</i> E OF Ennn[nn]  <i>or</i> N OF Nnn[nn] <i>or</i> N OF Snn[nn] AND S OF Nnn[nn] <i>or</i> S OF Snn[nn]	—	N30 W170  N OF N30  S OF S50 AND W OF E170  S OF N46 AND N OF N39  NE OF LINE N35 W020 – N45 W040 SW OF LINE N48 W020 – N43 E010 AND NE OF LINE N43 W020 – N38 E010  WI N20 W090 – N05 W090 – N10 W100 – N20 W100 – N20 W090  APRX 50KM WID LINE BTN N64 W017 – N57 W005 – N55 E010 – N55	—

<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
		<p><i>or</i></p> <p>W OF Wnnn[nn] <i>or</i>  W OF Ennn[nn] AND E  OF  Wnnn[nn] <i>or</i> E OF  Ennn[nn]</p> <p><i>or</i></p> <p>N OF LINE <i>or</i>  NE OF LINE <i>or</i>  E OF LINE <i>or</i>  SE OF LINE <i>or</i>  S OF LINE <i>or</i>  SW OF LINE <i>or</i>  W OF LINE <i>or</i>  NW OF LINE Nnn[nn]</p> <p><i>or</i></p> <p>Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn] – Nnn[nn] <i>or</i>  Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn]  [– Nnn[nn] <i>or</i> Snn[nn]  Wnnn[nn] <i>or</i> Ennn[nn]]  [AND N OF LINE <i>or</i>  NE OF LINE <i>or</i>  E OF LINE <i>or</i>  SE OF LINE <i>or</i>  S OF LINE <i>or</i>  SW OF LINE <i>or</i>  W OF LINE <i>or</i>  NW OF LINE Nnn[nn]</p> <p><i>or</i></p>		<p>E030</p> <p>ENTIRE FIR</p> <p>ENTIRE FIR/UIR</p> <p>ENTIRE CTA</p> <p>TC CENTRE PSN  N2740 W07345</p> <p>NO VA EXP</p>	

<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
		<p>Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn] – Nnn[nn] <i>or</i>  Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn] [– Nnn[nn] <i>or</i>  Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn]]]</p> <p><i>or</i></p> <p>WI Nnn[nn] <i>or</i> Snn[nn]  Wnnn[nn] <i>or</i> Ennn[nn] –  Nnn[nn] <i>or</i></p> <p>Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn] – Nnn[nn] <i>or</i>  Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn] – Nnn[nn] <i>or</i>  Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn] (<sup>4</sup>)</p> <p><i>or</i></p> <p>APRX nnKM WID LINE  BTN (nnNM WID LINE  BTN)</p> <p>Nnn[nn] <i>or</i></p> <p>Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn] – Nnn[nn] <i>or</i>  Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn] [– Nnn[nn] <i>or</i>  Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn]][ – Nnn[nn] <i>or</i>  Snn[nn] Wnnn[nn] <i>or</i>  Ennn[nn]]</p> <p><i>or</i></p> <p>ENTIRE FIR[/UIR]</p> <p><i>or</i></p> <p>ENTIRE CTA</p> <p><i>or</i></p> <p>TC CENTRE PSN  Nnn[nn] <i>or</i> Snn[nn]</p>			

<i>Element</i>	<i>Detailed content</i>	<i>SIGMET template</i>	<i>AIRMET template</i>	<i>SIGMET Examples</i>	<i>AIRMET Examples</i>
		Wnnn[nn] or Ennn[nn] ( <sup>1</sup> )  or  NO VA EXP ( <sup>2</sup> )			
Repetition of elements (C) ( <sup>3</sup> )	Repetition of elements included in a SIGMET for volcanic ash cloud or tropical cyclone	[AND]	—	AND	—

## OR

Cancellation of SIGMET/ AIRMET (C)	Cancellation of SIGMET/AIRMET referring to its identification	CNL SIGMET nnn nnnnnn/nnnnnn  Or  CNL SIGMET nnn nnnnnn/nnnnnn [VA MOV TO nnnn FIR]( <sup>2</sup> )	CNL AIRMET [n][n]n nnnnnn/nnnnnn	CNL SIGMET B04 101200/101600  CNL SIGMET I07 251030/251430 VA MOV TO YUDO FIR	CNL AIRMET 05 151520/151800
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(<sup>1</sup>) Only for SIGMET for tropical cyclones.

(<sup>2</sup>) Only for SIGMET for volcanic ash.

(<sup>3</sup>) To be used for two volcanic ash clouds or two centres of tropical cyclones simultaneously affecting the FIR concerned.

(<sup>4</sup>) The number of coordinates should be kept to a minimum and should not normally exceed seven.

(<sup>5</sup>) The elements ‘forecast time’ and ‘forecast position’ are not to be used in conjunction with the element ‘movement or expected movement’.

*Note: severe or moderate icing and severe or moderate turbulence (SEV ICE, MOD ICE, SEV TURB, MOD TURB) associated with thunderstorms, cumulonimbus clouds or tropical cyclones should not be included.*

## Appendix 5B

### Template for special air-reports (uplink)

#### Key:

M = inclusion mandatory, part of every special air-report (uplink);

C = inclusion conditional, whenever applicable;

= = a double line indicates that the text following it should be placed on the subsequent line.

*Note: the ranges and resolutions for the numerical elements included in special air-reports are shown in Appendix 8.*

<i>Element</i>	<i>Detailed content</i>	<i>Template</i>	<i>Examples</i>
Identification (M)	Special air-report (uplink) identification	ARS	ARS
Aircraft Identification (M)	Aircraft radiotelephony call sign	nnnnnn	VA812
Observed phenomenon (M)	Description of observed phenomenon causing the issuance of the special air-report	TS TSGR SEV TURB SEV ICE SEV MTW HVY SS VA CLD VA [MT nnnnnnnnnn] MOD TURB MOD ICE	TSGR SEV TURB SEV ICE SEV MTW HVY SS VA CLD VA VA MT ASHVAL5 MOD TURB MOD ICE
Observation time (M)	Time of observation of observed phenomenon	OBS AT nnnnZ	OBS AT 1210Z
Location (C)	Location (referring to latitude and longitude (in degrees and minutes)) of observed phenomenon	NnnnnWnnnnn <i>or</i> NnnnnEnnnnn <i>or</i> SnnnnWnnnnn <i>or</i> SnnnnEnnnnn	N2020W07005 S4812E01036
Level (C)	Flight level or altitude of	FLnnn <i>or</i> FLnnn/nnn <i>or</i>	FL390 FL180/210



<i>Element</i>	<i>Detailed content</i>	<i>Template</i>	<i>Examples</i>
	observed phenomenon	nnnnM (or [n]nnnnFT)	3000M 12000FT

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28. Appendix 6 is replaced as follows:

*‘Appendix 6*

<b>Template for advisory for volcanic ash</b>				
<b>Key:</b> M = inclusion mandatory; O = inclusion optional; = = a double line indicates that the text following it should be placed on the subsequent line. <i>Note 1: the ranges and resolutions for the numerical elements included in volcanic ash advisory are shown in Appendix 8.</i> <i>Note 2: the explanations for the abbreviations can be found in ICAO Doc 8400 ‘Procedures for Air Navigation Services — Abbreviations and Codes (PANS-ABC)’.</i> <i>Note 3: inclusion of a ‘colon’ after each element heading is mandatory.</i> <i>Note 4: numbers 1 to 18 are included only for clarity and they are not part of the advisory, as shown in the example.</i>				
<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
1	Identification of the type of message (M)	Type of message	VA ADVISORY	VA ADVISORY
2	Time of origin (M)	Year, month, day, time in UTC	DTG:       nnnnnnnn/nnnnZ	DTG:       20080923/0130Z
3	Name of VAAC (M)	Name of VAAC	VAAC:       nnnnnnnnnnnn	VAAC:       TOKYO
4	Name of volcano (M)	Name and International Association of Volcanology and Chemistry of the Earth’s Interior (IAVCEI) number of volcano	VOLCANO:   nnnnnnnnnnnnnnnnnnnn [nnnnnn] <i>or</i> UNKNOWN <i>or</i> UNNAMED	VOLCAN KARYMSKY 1000- O:           13  VOLCAN UNNAMED O:
5	Location of volcano (M)	Location of volcano in degrees and minutes	PSN:       Nnnnn <i>or</i> Snnnn Wnnnn <i>or</i> Ennnnn <i>or</i> UNKNOWN	PSN:       N5403 E15927  PSN:       UNKNOWN
6	State <i>or</i> region (M)	State, <i>or</i> region if ash is not reported over a State	AREA:       nnnnnnnnnnnnnnnn	AREA:       RUSSIA

<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
7	Summit elevation (M)	Summit elevation in m ( <i>or</i> ft)	SUMMIT ELEV:      nnnnM ( <i>or</i> nnnnnFT)	SUMMIT 1536M ELEV:
8	Advisory number (M)	Advisory number: year in full and message number (separate sequence for each volcano)	ADVISORY NR:      nnnn/nnnn	ADVISORY NR: 2008/4
9	Information source (M)	Information source using free text	INFO SOURCE: <i>Free text up to 32 characters</i>	INFO SOURCE: MTSAT-1R KVERT KEMSD :
10	Colour code (O)	Aviation colour code	AVIATION COLOUR CODE:      RED <i>or</i> ORANGE <i>or</i> YELLOW <i>or</i> GREEN <i>or</i> UNKNOWN <i>or</i> NOT GIVEN <i>or</i> NIL	AVIATION COLOUR CODE: RED
11	Eruption details (M)	Eruption details (including date/time of eruption(s))	ERUPTION DETAILS: <i>Free text up to 64 characters</i> <i>or</i> UNKNOWN	ERUPTION AT ON 20080923/0000Z DETAILS FL300 REPORTED :
12	Time of observation ( <i>or</i> estimation) of volcanic ash clouds (M)	Day and time (in UTC) of observation ( <i>or</i> estimation) of volcanic ash clouds	OBS ( <i>or</i> EST) VA DTG:      nn/nnnnZ	OBS VA 23/0100Z DTG:

<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>		<i>Examples</i>
13	Observed <i>or</i> estimated volcanic ash clouds (M)	Horizontal (in degrees and minutes) and vertical extent at the time of observation of the observed <i>or</i> estimated volcanic ash clouds <i>or</i> , if the base is unknown, the top of the observed <i>or</i> estimated volcanic ash clouds;  Movement of the observed <i>or</i> estimated volcanic ash clouds	OBS CLD <i>or</i>  EST CLD:	VA TOP FLnnn <i>or</i> SFC/FLnnn <i>or</i> FLnnn/nnn  VA [nnKM WID LINE BTN (nnNM WID LINE BTN)]  Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] –  Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn][ –  Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] –  Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn] –  Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]]  MOV N nnKMH ( <i>or</i> KT) <i>or</i> MOV NE nnKMH ( <i>or</i> KT) <i>or</i> MOV E nnKMH ( <i>or</i> KT) <i>or</i> MOV SE nnKMH ( <i>or</i> KT) <i>or</i> MOV S nnKMH ( <i>or</i> KT) <i>or</i> MOV SW nnKMH ( <i>or</i> KT) <i>or</i> MOV W nnKMH ( <i>or</i> KT) <i>or</i> MOV NW nnKMH ( <i>or</i> KT)  <i>or</i> VA NOT IDENTIFIABLE FM SATELLITE DATA WIND FLnnn/nnn nnn/nn[n]MPS ( <i>or</i> KT) <sup>2</sup> <i>or</i> WIND FLnnn/nnn VRBnnMPS ( <i>or</i> KT) <i>or</i> WIND SFC/FLnnn nnn/nn[n]MPS ( <i>or</i> KT) <i>or</i> WIND SFC/FLnnn VRBnnMPS ( <i>or</i> KT)	OBS VA FL250/300 CLD:  N5400 E15930 –  N5400 E16100 –  N5300 E15945  MOV SE 20KT SFC/FL200  N5130 E16130 – N5130 E16230 – N5230 E16230 – N5230 E16130  MOV SE 15KT  TOP FL240 MOV W 40KMH  VA NOT IDENTIFIABLE FM SATELLITE DATA WIND FL050/070 180/12MPS

<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
14	Forecast height and position of the volcanic ash clouds (+6 HR) (M)	<p>Day and time (in UTC) (6 hours from the ‘Time of observation (or estimation) of volcanic ash clouds’ given in Item 12);</p> <p>Forecast height and position (in degrees and minutes) for each volcanic ash cloud mass for that fixed valid time</p>	<p>FCST VA nn/nnnnZ</p> <p>CLD SFC or FLnnn/[FL]nnn</p> <p>+6 HR: [nnKM WID LINE BTN (nnNM WID LINE BTN)]</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] –</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] –</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] –</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] –</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn]]<sup>1</sup></p> <p>or</p> <p>NO VA EXP</p> <p>or</p> <p>NOT AVBL</p> <p>or</p> <p>NOT PROVIDED</p>	<p>FCST VA 23/0700Z</p> <p>CLD FL250/350</p> <p>+6 HR: N5130 E16030 –</p> <p>N5130 E16230 –</p> <p>N5330 E16230 –</p> <p>N5330 E16030</p> <p>SFC/FL180</p> <p>N4830 E16330 –</p> <p>N4830 E16630 –</p> <p>N5130 E16630 –</p> <p>N5130 E16330</p> <p>NO VA EXP</p> <p>NOT AVBL</p> <p>NOT PROVIDED</p>

<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
15	Forecast height and position of the volcanic ash clouds (+12 HR) (M)	<p>Day and time (in UTC) (12 hours from the ‘Time of observation (or estimation) of volcanic ash clouds’ given in Item 12);</p> <p>Forecast height and position (in degrees and minutes) for each volcanic ash cloud mass for that fixed valid time</p>	<p>FCST VA nn/nnnnZ</p> <p>CLD SFC or FLnnn/[FL]nnn</p> <p>+12 HR: [nnKM WID LINE BTN (nnNM WID LINE BTN)]</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] –</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] [ –</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] –</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] –</p> <p>Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn]</p> <p>or</p> <p>NO VA EXP</p> <p>or</p> <p>NOT AVBL</p> <p>or</p> <p>NOT PROVIDED</p>	<p>FCST VA 23/1300Z</p> <p>CLD SFC/FL270</p> <p>+12 HR: N4830 E16130 –</p> <p>N4830 E16600 –</p> <p>N5300 E16600 –</p> <p>N5300 E16130</p> <p>NO VA EXP</p> <p>NOT AVBL</p> <p>NOT PROVIDED</p>

<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>		<i>Examples</i>
16	Forecast height and position of the volcanic ash clouds (+18 HR) (M)	Day and time (in UTC) (18 hours from the 'Time of observation (or estimation) of volcanic ash clouds' given in Item 12);  Forecast height and position (in degrees and minutes) for each volcanic ash cloud mass for that fixed valid time	FCST VA nn/nnnnZ CLD SFC or FLnnn/[FL]nnn +18 HR: [nnKM WID LINE BTN (nnNM WID LINE BTN)] Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] – Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] – Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] – Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] – Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn] or NO VA EXP or NOT AVBL or NOT PROVIDED		FCST VA 23/1900Z CLD +18 HR: NO VA EXP  NOT AVBL  NOT PROVIDED
17	Remarks (M)	Remarks, as necessary	RMK: Free text up to 256 characters or NIL		RMK: LATEST REP FM KVERT (0120Z) INDICATES ERUPTION HAS CEASED. TWO DISPERSING VA CLD ARE EVIDENT ON SATELLITE IMAGERY  NIL

<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>		<i>Examples</i>
18	Next advisory (M)	Year, month, day and time in UTC	NXT ADVISORY:	nnnnnnnn/nnnnZ <i>or</i> NO LATER THAN nnnnnnnn/nnnnZ <i>or</i> NO FURTHER ADVISORIES <i>or</i> WILL BE ISSUED BY nnnnnnnn/nnnnZ	NXT ADVISORY:  20080923/0730Z  NO LATER THAN nnnnnnnn/nnnnZ  NO FURTHER ADVISORIES  WILL BE ISSUED BY nnnnnnnn/nnnnZ

(<sup>1</sup>) Up to 4 selected layers.

(<sup>2</sup>) If volcanic ash cloud is reported (e.g. AIREP) but not identifiable from the satellite data.’



29. Appendix 7 is replaced as follows:

*‘Appendix 7*

<b>Template for advisory for tropical cyclones</b>				
<b>Key:</b> =    =    a double line indicates that the text following it should be placed on the subsequent line. <i>Note 1: the ranges and resolutions for the numerical elements included in tropical cyclone advisory are shown in Appendix 8.</i> <i>Note 2: the explanations for the abbreviations can be found in ICAO Doc 8400 ‘Procedures for Air Navigation Services — Abbreviations and Codes (PANS-ABC).</i> <i>Note 3: all the elements are mandatory.</i> <i>Note 4: inclusion of a ‘colon’ after each element heading is mandatory.</i> <i>Note 5: numbers 1 to 19 are included only for clarity and they are not part of the advisory, as shown in the example.</i>				
<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
1	Identification of the type of message	Type of message	TC ADVISORY	TC ADVISORY
2	Time of origin	Year, month, day and time in UTC of issue	DTG:        nnnnnnnn/nnnnZ	DTG:        20040925/1600Z
3	Name of TCAC	Name of TCAC (location indicator <i>or</i> full name)	TCAC:        nnnn <i>or</i> nnnnnnnnnnn	TCAC:        YUFO  TCAC:        MIAMI
4	Name of tropical cyclone	Name of tropical cyclone <i>or</i> ‘NN’ for unnamed tropical cyclone	TC:        nnnnnnnnnnnn <i>or</i> NN	TC:        GLORIA
5	Advisory number	Advisory number (starting with ‘01’ for each tropical cyclone)	NR:        nn	NR:        01
6	Position of the centre	Position of the centre of the tropical cyclone (in degrees and minutes)	PSN:        Nnn[nn] <i>or</i> Snn[nn] Wnnn[nn] <i>or</i> Ennn[nn]	PSN:        N2706 W07306

Element		Detailed content	Template(s)		Examples
7	Direction and speed of movement	Direction and speed of movement given in 16 compass points and km/h (or kt), respectively, or moving slowly (< 6 km/h (3 kt)) or stationary (< 2 km/h (1 kt))	MOV:	N nnKMH (or KT) or NNE nnKMH (or KT) or NE nnKMH (or KT) or ENE nnKMH (or KT) or E nnKMH (or KT) or ESE nnKMH (or KT) or SE nnKMH (or KT) or SSE nnKMH (or KT) or S nnKMH (or KT) or SSW nnKMH (or KT) or SW nnKMH (or KT) or WSW nnKMH (or KT) or W nnKMH (or KT) or WNW nnKMH (or KT) or NW nnKMH (or KT) or NNW nnKMH (or KT) or SLW or STNR	MOV: NW 20KMH
8	Central pressure	Central pressure (in hPa)	C:	nnnHPA	C: 965HPA
9	Maximum surface wind	Maximum surface wind near the centre (mean surface wind over 10 minutes, in m/s (or kt))	MAX WIND:	nn[n]MPS (or nn[n]KT)	MAX WIND: 22MPS
10	Forecast of centre position (+6 HR)	Day and time (in UTC) (6 hours from the DTG given in Item 2);  forecast position (in degrees and minutes) of the centre of the tropical cyclone	FCST PSN +6 nn/nnnnZ HR: Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn]	FCST PSN +6 25/2200Z HR: N2748 W07350	
11	Forecast of maximum surface wind (+6 HR)	Forecast of maximum surface wind (6 hours after the DTG given in Item 2)	FCST MAX nn[n]MPS WIND +6 (or nn[n]KT) HR:	FCST MAX 22MPS WIND +6 HR:	

<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
12	Forecast of centre position (+12 HR)	Day and time (in UTC) (12 hours from the DTG given in Item 2);  forecast position (in degrees and minutes) of the centre of the tropical cyclone	FCST PSN nn/nnnnZ +12 HR: Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn]	FCST PSN 26/0400Z +12 HR: N2830 W07430
13	Forecast of maximum surface wind (+12 HR)	Forecast of maximum surface wind (12 hours after the DTG given in Item 2)	FCST MAX nn[n]MPS WIND (or nn[n]KT) +12 HR:	FCST MAX 22MPS WIND +12 HR:
14	Forecast of centre position (+18 HR)	Day and time (in UTC) (18 hours from the DTG given in Item 2);  forecast position (in degrees and minutes) of the centre of the tropical cyclone	FCST PSN nn/nnnnZ +18 HR: Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn]	FCST PSN 26/1000Z +18 HR: N2852 W07500
15	Forecast of maximum surface wind (+18 HR)	Forecast of maximum surface wind (18 hours after the DTG given in Item 2)	FCST MAX nn[n]MPS WIND (or nn[n]KT) +18 HR:	FCST MAX 21MPS WIND +18 HR:
16	Forecast of centre position (+24 HR)	Day and time (in UTC) (24 hours from the DTG given in Item 2);  forecast position (in degrees and minutes) of the centre of the tropical cyclone	FCST PSN nn/nnnnZ +24 HR: Nnn[nn] or Snn[nn] Wnnn[nn] or Ennn[nn]	FCST PSN 26/1600Z +24 HR: N2912 W07530
17	Forecast of maximum surface wind (+24 HR)	Forecast of maximum surface wind (24 hours after the DTG given in Item 2)	FCST MAX nn[n]MPS WIND (or nn[n]KT) +24 HR:	FCST MAX 20MPS WIND +24 HR:

<i>Element</i>		<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
18	Remarks	Remarks, as necessary	RMK: <i>Free text up to 256 characters</i> <i>or</i> NIL	RMK:      NIL
19	Expected time of issuance of next advisory	Expected year, month, day and time (in UTC) of issuance of next advisory	NXT MSG:    [BFR] nnnnnnnn/nnnnZ <i>or</i> NO MSG EXP	NXT MSG:    20040925/2000Z

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30. Appendix 8 is replaced as follows:

*‘Appendix 8*

<b>Ranges and resolutions for the numerical elements included in volcanic ash advisory, tropical cyclone advisory, SIGMET, AIRMET, aerodrome warning and wind shear warning</b>		
Elements	Range	Resolution
Summit elevation: M	000–8 100	1
FT	000–27 000	1
Advisory number: for VA (index) <sup>(1)</sup>	000–2 000	1
for TC (index) <sup>(1)</sup>	00–99	1
Maximum surface wind: MPS	00–99	1
KT	00–199	1
Central pressure: hPa	850–1 050	1
Surface wind speed: MPS	15–49	1
KT	30–99	1
Surface visibility: M	0000–0750	50
M	0800–5 000	100
Cloud: height of base: M	000–300	30
FT	000–1 000	100
Cloud: height of top: M	000–2 970	30
M	3 000–20 000	300
FT	000–9 900	100
FT	10 000–60 000	1 000
Latitudes: ° (degrees)	00–90	1
(minutes)	00–60	1
Longitudes: ° (degrees)	000–180	1
(minutes)	00–60	1
Flight levels:	000–650	10
Movement: KMH	0–300	10
KT	0–150	5

<sup>(1)</sup> Non-dimensional.