

Draft Annex X to ED Decision 201X/XXX/R

‘Acceptable Means of Compliance (AMC) and Guidance Material (GM) to Annex V to Regulation (EU) 2017/373 on specific requirements for providers of meteorological services (Part-MET)’

Annex V to ED Decision 2017/001/R is amended as follows:

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

- deleted text is ~~struck through~~;
- new or amended text is highlighted in grey;
- an ellipsis ‘(...)’ indicates that the rest of the text is unchanged.

1. GM1 MET.OR.100 is amended as follows:

GM1 MET.OR.100 Meteorological data and information

DATA AND INFORMATION RELIABILITY

~~Owing to the variability of meteorological elements in space and time, to limitations of observing techniques and to limitations caused by the definitions of some of the elements, the specific value of any of the elements given in a forecast is understood to be the most probable value which the element is likely to assume during the period of the forecast. Similarly, when the time of occurrence or change of an element is given in a forecast, this time is understood to be the most probable time.~~

Owing to the variability of meteorological elements in space and time, to limitations of observing techniques, and to limitations caused by the definitions of some of the elements, the specific value of any of the elements given in a meteorological report or in a forecast is understood to be the best approximation to the actual conditions at the time of observation or the most probable value that the element is likely to assume during the period of the forecast, respectively. Similarly, when the time of occurrence or change of an element is given in a forecast, this time is understood to be the most probable time.

2. AMC1 MET.OR.100(a) is amended as follows:

AMC1 MET.OR.100(a) Meteorological data and information

INFORMATION TO BE PROVIDED

(...)

- (a) the provision in air traffic services units of displays related to semi-automatic observing systems or automatic observing systems;

(...)

3. GM1 MET.OR.105(b) is added as follows:

GM1 MET.OR.105(b) Retention of meteorological information
GENERAL

The competent authority determines who may be provided with meteorological information about inquiries and investigations concerning aviation.

4. GM1 MET.OR.110 is amended as follows:

GM1 MET.OR.110 Meteorological information exchange requirements
GENERAL

Operational meteorological information is disseminated to international OPMET databanks and the centres for the operation of the aeronautical fixed service satellite distribution Internet-based services.

5. GM2 MET.OR.110 is amended as follows:

GM2 MET.OR.110 Meteorological information exchange requirements
OPMET DATABANK

The list of relevant meteorological exchange requirements for OPMET can be found in the TABLE MET II-1, TABLE MET II-2, TABLE MET II-3, and TABLE MET II-EUR-1 of Volume II of FASID tables in ICAO Doc 7754 (EUROPEAN (EUR) AIR NAVIGATION PLAN ANP).

6. AMC2 MET.OR.200(a)(3) is amended as follows:

GM1AMC2 MET.OR.200(a)(3) Meteorological reports and other information
METAR INTERVALS — NON-SCHEDULED INTERNATIONAL CAT

- (a) For aerodromes not serving scheduled international commercial air transport operations, the dissemination of hourly METAR and SPECI, as well as the criteria to provide SPECI, should be agreed between the competent authority and the meteorological services provider an aeronautical meteorological station may disseminate hourly METAR.
- (b) Such dissemination, as well as the criteria to provide SPECI, should be agreed between the competent authority and the meteorological services provider.

7. AMC1 MET.OR.210 is amended as follows:

AMC1 MET.OR.210 Observing meteorological elements
DISPLAY

Where automated equipment forms part of semi-automatic observing system or automatic observing system, displays of data which are made available to the local ATS units should be a subset of and displayed parallel to those available in the aeronautical meteorological stations or meteorological offices. In those displays, each meteorological element should be annotated to identify, as appropriate, the locations for which the element is representative.

8. AMC2 MET.OR.210 is amended as follows:

AMC2 MET.OR.210 Observing meteorological elements

~~CLIMATOLOGICAL INFORMATION PROCESSING OF METEOROLOGICAL OBSERVATIONS~~

(...)

9. GM1 MET.OR.220(a) is amended as follows:

GM1 MET.OR.220(a) Aerodrome forecasts

DISSEMINATION OF TAF

TAF and amendments thereto are disseminated to international OPMET databanks and the centres designated for the operation of the aeronautical fixed service ~~satellite distribution systems~~ Internet-based services.

10. GM1 MET.OR.240(a)(2) is inserted:

GM1 MET.OR.240(a)(2) Information for use by operator or flight crew

GENERAL

For aerodromes not serving scheduled international commercial air transport operations within Europe:

- (a) an aeronautical meteorological station may disseminate METAR on an hourly basis, as well as SPECI, as necessary; and
- (b) such information should be made available and may include TREND.

11. AMC1 MET.OR.250(a) is amended as follows:

AMC1 MET.OR.250(a) SIGMET ~~messages~~

FIR AND CTA

Meteorological watch offices whose area of responsibility encompasses more than one FIR and/or CTA should provide separate SIGMET ~~messages~~ for each FIR and/or CTA.

12. AMC2 MET.OR.250(a) is deleted.

13. GM1 MET.OR.250(a) is amended as follows:

GM1 MET.OR.250(a) SIGMET ~~messages~~

DISSEMINATION

- (a) SIGMET ~~messages~~ are disseminated to meteorological watch offices and WAFCs and to other meteorological offices. SIGMET ~~messages~~ for volcanic ash are also disseminated to VAACs.
- (b) SIGMET ~~messages~~ are disseminated to international OPMET databanks and the centres designated for the operation of the aeronautical fixed service ~~satellite distribution systems~~ Internet-based services.

14. AMC1 MET.OR.250(c) is amended as follows:

AMC1 MET.OR.250(c) SIGMET-messages

SOURCE

SIGMET ~~messages~~ concerning volcanic ash clouds and tropical cyclones should be based on advisory information provided by VAACs and tropical cyclone advisory centres (TCACs), respectively.

15. AMC1 MET.OR.255(a) is deleted.

16. GM1 MET.OR.255(a) is amended as follows:

GM1 MET.OR.255(a) AIRMET-messages

DISSEMINATION

- (a) AIRMET ~~messages~~ are disseminated to meteorological watch offices in adjacent flight information regions and to other meteorological watch offices or aerodrome meteorological offices, as agreed by the competent authorities concerned.
- (b) AIRMET ~~messages~~ are transmitted to international operational meteorological databanks and the centres for the operation of the aeronautical fixed service Internet-based services.

17. AMC1 MET.TR.200(a) is amended as follows:

AMC1 MET.TR.200(a) Meteorological reports and other information

TEMPLATE FOR THE LOCAL ROUTINE REPORTS AND LOCAL SPECIAL REPORTS

Local routine reports and local special reports should be issued in abbreviated plain language, in accordance with the below template.

Template for the local routine report (MET REPORT) and local special (SPECIAL) reports (SPECIAL)			
Key:			
M = inclusion mandatory, part of every message;			
C = inclusion conditional, dependent on meteorological conditions;			
O = inclusion optional.			
<i>Element</i>	<i>Detailed content</i>	<i>Template(s)</i>	<i>Examples</i>
Identification of the type of report (M)	Type of report	MET REPORT or SPECIAL	MET REPORT SPECIAL
Location indicator (M)	ICAO location indicator (M)	nnnn	YUDO
Time of the observation (M)	Day and actual time of the observation in UTC	nnnnnnZ	221630Z

Identification of an automated report (C)	Automated report identifier (C)	AUTO			AUTO
Surface wind (M)	Name of the element (M)	WIND			WIND 240/4MPS (WIND 240/8KT)
	Runway (O)	RWY nn[L] or RWY nn[C] or RWY nn[R]			WIND RWY 18 TDZ 190/6MPS (WIND RWY 18 TDZ 190/12KT)
	Runway section (O)	TDZ			
	Wind direction (M)	nnn/	VRB BTN nnn/ AND nnn/ or VRB	C A L M	WIND VRB1MPS WIND CALM (WIND VRB2KT) WIND VRB BTN 350/ AND 050/1MPS (WIND VRB BTN 350/ AND 050/2KT) WIND 270/ABV49MPS (WIND 270/ABV99KT)
	Wind speed (M)	[ABV]n[n][n]MPS (or [ABV]n[n]KT)			
	Significant speed variations (C)	MAX[ABV]nn[n] MNMn[n]			
	Significant directional variations (C)	VRB BTN nnn/ AND nnn/	—		
	Runway section (O)	MID			WIND 120/3MPS MAX9 MNM2 (WIND 120/6KT MAX18 MNM4)
	Wind direction (O)	nnn/	VRB BTN nnn/ AND nnn/ or VRB	C A L M	WIND 020/5MPS VRB BTN 350/ AND 070/ (WIND 020/10KT VRB BTN 350/ AND 070/) WIND RWY 14R MID 140/6MPS (WIND RWY 14R MID 140/12KT) WIND RWY 27 TDZ 240/8MPS MAX14 MNM5 END 250/7MPS (WIND RWY 27 TDZ 240/16KT MAX28 MNM10 END 250/14KT)
	Wind speed (O)	[ABV]n[n][n]MPS (or [ABV]n[n]KT)			
	Significant speed variations (C)	MAX[ABV]nn[n] MNMn[n]			
	Significant directional variations (C)	VRB BTN nnn/ AND nnn/	—		
	Runway section (O)	END			
	Wind direction (O)	nnn/	VRB BTN nnn/ AND nnn/ or VRB	C A L M	
	Wind speed (O)	[ABV]n[n][n]MPS (or [ABV]n[n]KT)			

		Significant speed variations (C)	MAX[ABV]nn[n] MNMn[n]		
		Significant directional variations (C)	VRB BTN nnn/ AND nnn/	—	
Visibility (M)	Name of the element (M)	VIS		C	VIS 350M
	Runway (O)	RWY nn[L] or RWY nn[C] or RWY nn[R]		A	CAVOK
	Runway section (O)	TDZ		V	VIS 7KM
	Visibility (M)	n[n][n][n]M or n[n]KM		O	VIS 10KM
	Runway section (O)	MID		K	VIS RWY 09 TDZ 800M END 1200M
	Visibility (O)	n[n][n][n]M or n[n]KM			VIS RWY 18C TDZ 6KM RWY 27 TDZ 4000M
	Runway section (O)	END			
	Visibility (O)	n[n][n][n]M or n[n]KM			
Runway visual range (C)	Name of the element (M)	RVR			RVR RWY 32 400M
	Runway (C)	RWY nn[L] or RWY nn[C] or RWY nn[R]			RVR RWY 20 1600M
	Runway section (C)	TDZ			RVR RWY 10L BLW 50M
	Runway visual range (M)	[ABV or BLW] nn[n][n]M			RVR RWY 14 ABV 2000M
	Runway section (C)	MID			RVR RWY 10 BLW 150M
	Runway visual range (C)	[ABV or BLW] nn[n][n]M			RVR RWY 12 ABV 1200M
	Runway section (C)	END			RVR RWY 12 TDZ 1100M MID ABV 1400M
	Runway visual range (C)	[ABV or BLW] nn[n][n]M			RVR RWY 16 TDZ 600M MID 500M END 400M
					RVR RWY 26 500M RWY 20 800M

Present weather (C)	Intensity of present weather (C)	FBL or MOD or HVY	—	
	Characteristics and type of present weather (C)	DZ or RA or SN or SG or PL or DS or SS or FZDZ or FZUP or FC or FZRA or SHGR or SHGS or SHRA or SHSN or SHUP or TSGR or TSGS or TSRA or TSSN or TSUP ¹² 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 //	MOD RA HVY TSRA HVY DZ FBL SN HZ FG VA MIFG HVY TSRASN FBL SNRA FBL DZ FG HVY SHSN BLSN HVY TSUP //
Cloud (M)	Name of the element (M)	CLD		CLD NSC CLD SCT 300M OVC 600M (CLD SCT 1000FT OVC 2000FT)
	Runway (O)	RWY nn[L] or RWY nn[C] or RWY nn[R]		CLD OBSC VER VIS 150M (CLD OBSC VER VIS 500FT) CLD BKN TCU 270M (CLD BKN TCU 900FT) CLD RWY 08R BKN 60M RWY 26 BKN 90M (CLD RWY 08R BKN 200FT RWY 26 BKN 300FT) CLD /// CB ///M (CLD /// CB ///FT) CLD /// CB 400M (CLD /// CB 1200FT) CLD NCD

	Cloud amount (M) or vertical visibility (O)	FEW or SCT or BKN or OVC or ///	OBSC	NSC or NCD	
	Cloud type (C)	CB or TCU or ///	—		
	Height of cloud base or the value of vertical visibility (C)	n[n][n][n]M (or n[n][n][n]FT) or ///M (or ///FT)	[VER VIS n[n][n]M (or VER VIS n[n][n][n]FT)] or VER VIS ///M (or VER VIS ///FT)		
Air temperature (M)	Name of the element (M)	T			T17
	Air temperature (M)	[MS]nn			TMS08
Dew-point temperature (M)	Name of the element (M)	DP			DP15
	Dew-point temperature (M)	[MS]nn			DPMS18
Pressure values (M)	Name of the element (M)	QNH			QNH 0995HPA
	QNH (M)	nnnnHPA			QNH 1009HPA
	Name of the element (O)	QFE			QNH 1022HPA QFE 1001HPA
	QFE (O)	[RWY nn[L] or RWY nn[C] or RWY nn[R]] nnnnHPA [RWY nn[L] or RWY nn[C] or RWY nn[R]] nnnnHPA			QNH 0987HPA QFE RWY 18 0956HPA RWY 24 0955HPA
Supplementary information (C)	Significant meteorological phenomena (C)	CB or TS or MOD TURB or SEV TURB or WS or GR or SEV SQL or MOD ICE or SEV ICE or FZDZ or FZRA or SEV MTW or SS or DS or BLSN or FC			FC IN APCH WS IN APCH 60M-WIND

	Location of the phenomena (C)	IN APCH [n][n][n]M-WIND nnn/n[n]MPS] <i>or</i> IN CLIMB-OUT [n][n][n]M-WIND nnn/n[n]MPS] (IN APCH [n][n][n]FT-WIND nnn/n[n]KT] <i>or</i> IN CLIMB-OUT [n][n][n]FT-WIND nnn/n[n]KT]) <i>or</i> RWY nn[L] <i>or</i> RWY nn[C] <i>or</i> RWY nn[R]	360/13MPS WS RWY 12 REFZRA CB IN CLIMB-OUT RETSRA
	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> REBLN <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> REFC <i>or</i> REPL <i>or</i> REUP <i>or</i> REFZUP <i>or</i> RETSUP <i>or</i> RESHUP <i>or</i> REVA <i>or</i> RETS	

FOR INFORMATION ONLY

Trend forecast (O)	Name of the element (M)	TREND		TREND NOSIG TREND BECMG FEW 600M (TREND BECMG FEW 2000FT) TREND TEMPO 250/18 MPS MAX25 (TREND TEMPO 250/36KT MAX50) TREND BECMG AT1800 VIS 10KM NSW TREND BECMG TL1700 VIS 800M FG TREND BECMG FM1030 TL1130 CAVOK TREND TEMPO TL1200 VIS 600M BECMG AT1230 VIS 8KM NSW CLD NSC TREND TEMPO FM0300 TL0430 MOD FZRA TREND BECMG FM1900 VIS 500M HVY SNRA TREND BECMG FM1100 MOD SN TEMPO FM1130 BLSN TREND BECMG AT1130 CLD OVC 300M (TREND BECMG AT1130 CLD OVC 1000FT) TREND TEMPO TL1530 HVY SHRA CLD BKN CB 360M (TREND TEMPO TL1530 HVY SHRA CLD BKN CB 1200FT)
	Change indicator (M)	N	BECMG or TEMPO	
	Period of change (C)	S	FMnnnn and/or TLnnnn or ATnnnn	
	Wind (C)	G	nnn/[ABV]n[n][n]MPS [MAX[ABV]nn[n]] (or nnn/[ABV]n[n]KT [MAX[ABV]nn])	

Visibility (C)	VIS n[n][n][n]M or VIS n[n]KM			C A V O K
Weather phenomenon: intensity (C)	FBL or MOD or HVY	—	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		
Name of the element (C)	CLD			
Cloud amount and vertical visibility (C)	FEW or SCT or BKN or OVC	OBSC	NSC	
Cloud type (C)	CB or TCU	—		
Height of cloud base or the value of vertical visibility (C)	n[n][n][n]M (or n[n][n][n]FT)	[VER VIS n[n][n]M (or VER VIS n[n][n][n]FT)]		

18. GM1 MET.TR.200(a) is amended as follows:

GM1 MET.TR.200(a) Meteorological reports and other information

RANGES AND RESOLUTIONS — LOCAL ROUTINE REPORTS AND LOCAL SPECIAL REPORTS

- (a) The ranges and resolutions for the numerical elements included in the local routine reports and local special reports are shown below.

Ranges and resolutions for the numerical elements included in local routine reports and local special reports			
Element elements included in the local routine reports and local special reports		Range	Resolution
Runway:	(no units)	01—36	1
Wind direction:	°true	010—360	10
Wind speed:	MPS	1—99*	1
	KT	1—199*	1
Visibility:	M	0—750	50
	M	800—4 900	100
	KM	5—9	1
	KM	10—	0 (fixed value: 10 KM)
Runway visual range:	M	0—375	25
	M	400—750	50
	M	800—2 000	100
Vertical visibility:	M	0—75**	15
	M	90—600	30
	FT	0—250**	50
	FT	300—2 000	100
Clouds: height of cloud base:	M	0—75**	15
	M	90—3 000—2 970	30
	M	3 000—6 000	300
	FT	0—250**	50
	FT	300—10 000—9 900	100
	FT	10 000—20 000	1 000
Air temperature;	°C	—80 — +60	1
Dew-point temperature:			
QNH; QFE:	hPa	0500—1 100	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.

** Under circumstances as specified in AMC1 MET.TR.205(e)(13); otherwise a resolution of 100 ft (30 m) is to be used.

(...)

19. AMC1 MET.TR.200(a)(4) is amended as follows:

AMC1 MET.TR.200(a)(4) Meteorological reports and other information
AUTOMATED REPORTING

Local routine reports and local special reports and METAR from automatic observing systems should be identified with the word 'AUTO'.

20. GM1 MET.TR.200(a)(4) is amended as follows:

GM1 MET.TR.200(a)(4) Meteorological reports and other information
AUTOMATED REPORTING

METAR, local routine reports and local special reports from automatic observing systems may be used as agreed between the aeronautical meteorological stations and the users.

21. AMC1 MET.TR.200(a)(12) is amended as follows:

AMC1 MET.TR.200(a)(12) Meteorological reports and other information
SUPPLEMENTARY INFORMATION — SEMI-AUTOMATIC OBSERVING SYSTEM

- (a) In local routine reports and local special reports and in METAR when reported by a semi-automatic observing system, the following recent weather phenomena should be reported, up to a maximum of three groups, in the supplementary information:

(...)

- (b) In local routine reports and local special reports when reported by a semi-automatic observing system, the following significant meteorological conditions, or combinations thereof, should be reported in the supplementary information:

(...)

22. AMC2 MET.TR.200(a)(12) is amended as follows:

AMC2 MET.TR.200(a)(12) Meteorological reports and other information
SUPPLEMENTARY INFORMATION — AUTOMATIC OBSERVING SYSTEM

In local routine reports and local special reports and in METAR reported by an automatic observing system, the following recent weather phenomena should be reported, up to a maximum of three groups, in the supplementary information:

(...)

23. AMC3 MET.TR.200(a)(12) is amended as follows:

AMC3 MET.TR.200(a)(12) Meteorological reports and other information
SUPPLEMENTARY INFORMATION — WIND SHEAR

Information on wind shear should be included as supplementary information in local routine reports and local special reports and in METAR, where local circumstances so warrant.

24. GM1 MET.TR.200(b) is amended as follows:

GM1 MET.TR.200(b) Meteorological reports and other information
EXAMPLE OF LOCAL SPECIAL REPORT

Local special report:

SPECIAL YUDO 151115Z WIND 050/25KT MAX37 MNM10 VIS 1200M RVR RWY 05 ABV 1800M HVY TSRA
CLD BKN CB 500FT T25 DP22 QNH 1018HPA 1008HPA TREND TEMPO TL1200 VIS 600M BECMG AT1200
VIS 8KM NSW NSC

Meaning:

Special report for Donlon/International* issued on the 15th of the month at 1115 UTC; surface wind direction 050 degrees; wind speed 25 knots gusting between 10 and 37 knots; visibility 1 200 metres along the runway; Runway visual range above 1 800 metres at the threshold on runway 05; thunderstorm with heavy rain; broken cumulonimbus cloud at 500 feet; air temperature 25 degrees Celsius; dew-point temperature 22 degrees Celsius; QNH 1 008 hectopascals; TREND during next 2 hours; visibility along the runway temporarily 600 metres from 1 115 to 1 200, becoming at 12.00 UTC visibility along the runway 8 kilometres, thunderstorm ceases and nil significant weather and nil significant cloud.

* *Fictitious location*

25. AMC1 MET.TR.205(d) is amended as follows:

AMC1 MET.TR.205(d) Reporting of meteorological elements
PRESENT WEATHER PHENOMENA — AUTOMATIC OBSERVING SYSTEM

In local routine reports and local special reports and in METAR reported by an automatic observing system, the following types of present weather phenomena should be reported, using their respective abbreviations and relevant criteria, as appropriate:

(...)

26. AMC2 MET.TR.205(d) is amended as follows:

AMC2 MET.TR.205(d) Reporting of meteorological elements

PRESENT WEATHER PHENOMENA — SEMI-AUTOMATIC OBSERVING SYSTEM

In local routine reports and local special reports and in METAR reported by a semi-automatic observing system, the following types of present weather phenomena should be reported, using their respective abbreviations and relevant criteria, as appropriate:

(...)

27. AMC3 MET.TR.205(d) is amended as follows:

AMC3 MET.TR.205(d) Reporting of meteorological elements

PRESENT WEATHER PHENOMENA — UNIDENTIFIED PRECIPITATION (UP)

In automated local routine reports and local special reports and in METAR, in addition to drizzle (DZ), rain (RA) and snow (SN), the abbreviation 'UP' should be used for unidentified precipitation when the type of precipitation cannot be identified by the automatic observing system.

28. AMC1 MET.TR.205(d)(3) is amended as follows:

AMC1 MET.TR.205(d)(3) Reporting of meteorological elements

PRESENT WEATHER PHENOMENA — ADDITIONAL CHARACTERISTICS

- (a) In local routine reports and local special reports and in METAR, only when reported by a semi-automatic observing system, the following characteristics of present weather phenomena, as necessary, should be reported using their respective abbreviations and relevant criteria, as appropriate:

~~(a)~~(1) Shower (SH): used to report showers. Showers observed in the vicinity of the aerodrome should be reported as 'VCSH' without qualification regarding type or intensity of precipitation.

~~(b)~~(2) Blowing (BL): used with types of present weather phenomena raised by the wind to a height of 6 ft (2 m) or more above the ground.

~~(c)~~(3) Low drifting (DR): used with types of present weather phenomena raised by the wind to less than 6 ft (2 m) above ground level.

~~(d)~~(4) Shallow (MI): less than 6 ft (2 m) above ground level.

~~(e)~~(5) Patches (BC): fog patches randomly covering the aerodrome.

~~(f)~~(6) Partial (PR): a substantial part of the aerodrome covered by fog while the remainder is clear.

- (b) In automated local routine reports, local special reports and METAR, when showers (SH) referred to above cannot be determined based upon a method that takes account of the presence of convective cloud, the precipitation should not be characterised by 'SH'.

29. AMC2 MET.TR.205(d)(3) is amended as follows:

AMC2 MET.TR.205(d)(3) Reporting of meteorological elements
PRESENT WEATHER PHENOMENA — INTENSITY

In local routine reports and local special reports and METAR, the relevant intensity or, as appropriate, the proximity to the aerodrome of the reported present weather phenomena should be indicated as follows:

(...)

30. AMC1 MET.TR.205(e)(1) is amended as follows:

AMC1 MET.TR.205(e)(1) Reporting of meteorological elements
CLOUD — HEIGHT OF CLOUD BASE

In local routine reports and local special reports and in METAR:

(...)

31. AMC1 MET.TR.210(a) is amended as follows:

AMC1 MET.TR.210(a) Observing meteorological elements
SURFACE WIND

- (a) When local routine reports and local special reports are used for departing or arriving aircraft, the surface wind observations for these reports should be representative of conditions along the runway or the touchdown zone respectively.

(...)

32. AMC1 MET.TR.210(a)(1) is amended as follows:

AMC1 MET.TR.210(a)(1) Observing meteorological elements
SURFACE WIND — SITING

(...)

- (c) Sensors for surface wind observations for local routine reports and local special reports should be sited to give the best practicable indication of conditions along the runway and touchdown zones.

(...)

33. AMC1 MET.TR.210(a)(3) is amended as follows:

AMC1 MET.TR.210(a)(3) Observing meteorological elements
SURFACE WIND — AVERAGING

The averaging period for measuring variations from the mean wind speed (gusts) reported in accordance with MET.TR.205(a)(3)(iii) should be 3 seconds for local routine reports, local special reports, METAR, and for wind displays used for depicting variations from the mean wind speed (gusts) in ATS units.

34. AMC1 MET.TR.210(b)(1) is amended as follows:

AMC1 MET.TR.210(b)(1) Observing meteorological elements

VISIBILITY — GENERAL

- (a) When local routine reports and local special reports are used for departing aircraft, the visibility observations for these reports should be representative of the conditions along the runway.
- (b) When local routine reports and local special reports are used for arriving aircraft, the visibility observations for these reports should be representative of the touchdown zone of the runway.
- (...)

35. GM1 MET.TR.210(b)(4)(ii) is corrected in title to read GM1 MET.TR.210(b)(4).

36. AMC1 MET.TR.210(c)(2) is amended as follows:

AMC1 MET.TR.210(c)(2) Observing meteorological elements

RUNWAY VISUAL RANGE (RVR) — RUNWAY LIGHT INTENSITY

(...)

- (c) For local routine report and local special reports, the light intensity to be used for the computation should be:

37. AMC1 MET.TR.210(d)(1) is amended as follows:

AMC1 MET.TR.210(d)(1) Observing meteorological elements

PRESENT WEATHER — GENERAL

- (a) For local routine reports and local special reports, the present weather information should be representative of the conditions at the aerodrome.
- (...)

38. AMC1 MET.TR.210(e) is amended as follows:

AMC1 MET.TR.210(e) Observing meteorological elements

CLOUDS — GENERAL

- (a) Cloud observations for local routine reports and local special reports should be representative of the conditions at the runway threshold(s) in use.
- (...)

39. AMC1 MET.TR.210(e)(2) is amended as follows:

AMC1 MET.TR.210(e)(2) Observing meteorological elements

CLOUDS — SITING

(...)

- (b) For local routine reports and local special reports, in the case of aerodromes with precision approach runways, sensors for cloud amount and height of cloud base should be sited to give the best practicable indications of the cloud amount and height of cloud base at the threshold of the runway in use. For that purpose, a sensor should be installed at a distance of less than 4 000 ft (1 200 m) before the landing threshold.

40. AMC1 MET.TR.210(f) is amended as follows:

AMC1 MET.TR.210(f) Observing meteorological elements
AIR TEMPERATURE AND DEW-POINT TEMPERATURE

Observations of air temperature and dew-point temperature for local routine reports and local special reports and METAR should be representative of the whole runway complex.

41. AMC3 MET.TR.215(a) is amended as follows:

AMC3 MET.TR.215(a) Forecasts and other information
AUTOMATED PRE-FLIGHT INFORMATION SYSTEMS

(...)

- (c) use access and interrogation procedures based on abbreviated plain language and, as appropriate, ICAO location indicators, and aeronautical meteorological code data-type designators prescribed by WMO, or based on a menu-driven user interface, or other appropriate mechanisms as agreed between the meteorological service provider^{authority} and the operators concerned; and

(...)

42. AMC1 MET.TR.215(e) is amended as follows:

AMC1 MET.TR.215(e) Forecasts and other information
FLIGHT DOCUMENTATION

- (a) Where the forecasts are supplied in chart form, flight documentation for low-level flights, including those in accordance with the visual flight rules, operating up to flight level 100 or up to flight level 150 in mountainous areas or higher, where necessary, should contain the following as appropriate to the flight:

- (1) information from relevant SIGMET and AIRMET messages;

(...)

43. GM3 MET.TR.220 is amended as follows:

GM3 MET.TR.220 Aerodrome forecasts
ACCURACY OF TAF

(...)

<i>Element to be forecast</i>	<i>Operationally desirable accuracy of forecasts</i>	<i>Minimum percentage of cases within range</i>
TAF		
Wind direction	$\pm 20^\circ$	80 % of cases
Wind speed	± 2.5 m/s (5 kt)	80 % of cases
Visibility	± 200 m up to 800 m ± 30 % between 800 m and 10 km	80 % of cases
Precipitation	Occurrence or non-occurrence	80 % of cases
Cloud amount	One category below 450 m (1 500 ft) Occurrence or non-occurrence of BKN or OVC between 450 m (1 500 ft) and 3 000 m (10 000 ft)	70 % of cases
Cloud height	± 30 m (100 ft) up to 300 m (1 000 ft) ± 30 % between above 300 m (1 000 ft) and 3 000 m (10 000 ft)	70 % of cases
Air temperature	$\pm 1^\circ\text{C}$	70 % of cases

44. AMC1 MET.TR.220(b) is deleted.

45. GM1 MET.TR.220(b) is deleted.

46. AMC1 MET.TR.220(d) is inserted:

AMC1 MET.TR.220(d) Aerodrome forecasts

TAF — DIGITAL FORM

Terminal aerodrome forecasts (TAFs) should be disseminated in digital form.

47. GM1 MET.TR.220(d) is replaced as follows:

GM1 MET.TR.220(d) Aerodrome forecasts

TAF — DIGITAL FORM

(a) When TAF is disseminated in digital form, this is in addition to the TAF code form.

(b) Guidance on the information exchange model, GML, and metadata profile is provided in ICAO Doc 10003 'Manual on the Digital Exchange of Aeronautical Meteorological Information'.

48. GM1 MET.TR.225(c)(2)(iii) is amended as follows:

GM1 MET.TR.225(c)(2)(iii) Forecasts for landing
VISIBILITY

In TREND forecasts appended to local routine reports and local special reports, visibility refers to the forecast visibility along the runway(s).

49. AMC1 MET.TR.235 is amended as follows:

AMC1 MET.TR.235 Aerodrome warnings and wind shear warnings and alerts
AERODROME WARNINGS — FORMAT

(...)

Template for aerodrome warnings

Key:

M = inclusion mandatory, ~~part of every message;~~
C = inclusion conditional, included whenever applicable.

(...)

50. GM1 MET.TR.235 is amended as follows:

GM1 MET.TR.235 Aerodrome warnings and wind shear warnings and alerts
RANGES AND RESOLUTIONS — AERODROME WARNINGS

(...)

Ranges and resolutions for the numerical elements included in volcanic ash and tropical cyclone advisory messages, SIGMET, AIRMET, messages and aerodrome warning and wind shear warnings

(...)

51. GM1 MET.TR.235(c) is amended as follows:

~~GM1~~GM3 MET.TR.235(c) Aerodrome warnings and wind shear warnings and alerts
DETECTION OF WIND SHEAR

(...)

52. AMC1 MET.TR.250(a) is deleted.

53. AMC2 MET.TR.250(a) is amended as follows:

AMC2 MET.TR.250(a) SIGMET-messages
AIRSPACE

In cases where the airspace is divided into a flight information region (FIR) and an upper-flight information region (UIR), the SIGMET message should be identified by the location indicator of the ATS unit serving the FIR.

54. GM1 MET.TR.250(a) is amended as follows:

GM1 MET.TR.250(a) SIGMET-messages
FLIGHT INFORMATION REGION

The SIGMET message applies to the whole airspace within the lateral limits of the FIR, i.e. to the FIR and to the UIR. The particular areas and/or flight levels affected by the meteorological phenomena causing the issuance of the SIGMET message are given in the text of the message.

55. GM2 MET.TR.250(a) is amended as follows:

GM2 MET.TR.250(a) SIGMET-messages
EXAMPLE OF SIGMET-MESSAGES, AND THE CORRESPONDING CANCELLATIONS

SIGMET

YUDD SIGMET 2 VALID 101200/101600 YUSO – YUDD SHANLON FIR/UIR OBSC TS FCST S OF N54
AND E OF W012 TOP FL390 MOV E 20 KT WKN FCST 1600Z S OF N54 AND E OF W010

Cancellation of SIGMET

YUDD SIGMET 3 VALID 101345/101600 YUSO– YUDD SHANLON FIR/UIR CNL SIGMET 2
101200/101600

56. GM3 MET.TR.250(a) is amended as follows:

GM3 MET.TR.250(a) SIGMET messages

EXAMPLE OF SIGMET MESSAGE FOR TROPICAL CYCLONE

YUCC SIGMET 3 VALID 251600/252200 YUDO — YUCC AMSWELL FIR TC GLORIA PSN N2706 W07306 CB
OBS AT 1600Z ~~N2706 W07306 CB TOP FL500 WI 150NM~~250NM OF TC CENTRE TOP FL500 MOV NW
~~10KT NC FCST AT 2200Z TC CENTRE PSN N2740 W07345~~

Meaning:

The third SIGMET message issued for the AMSWELL* flight information region (identified by YUCC Amswell area control centre) by the Donlon/International* meteorological watch office (YUDO) since 0001 UTC; the message SIGMET is valid from 16.00 UTC to 22.00 UTC on the 25th of the month; tropical cyclone Gloria at 27 degrees 6 minutes north and 73 degrees 6 minutes west; cumulonimbus was observed at 16.00 UTC within 250 nautical miles of the centre of the tropical cyclone with top at flight level 500; no changes in intensity are expected; at 22.00 UTC, the centre of the tropical cyclone is forecast to be located at 27 degrees 40 minutes north and 73 degrees 45 minutes west. ~~was observed at 1600 UTC at 27 degrees 6 minutes north and 73 degrees 6 minutes west with cumulonimbus top at flight level 500 within 150 nautical miles of the centre; the tropical cyclone is expected to move northwestwards at 10 knots and not to undergo any changes in intensity; the forecast position of the centre of the tropical cyclone at 2200 UTC is expected to be at 27 degrees 40 minutes north and 73 degrees 45 minutes west.~~

* Fictitious locations

57. GM4 MET.TR.250(a) is amended as follows:

GM4 MET.TR.250(a) SIGMET messages

EXAMPLE OF SIGMET MESSAGE FOR VOLCANIC ASH

YUDD SIGMET 2 VALID 211100/211700 YUSO — YUDD SHANLON FIR/UIR VA ERUPTION MT ASHVAL
PSN S1500 E07348 VA CLD OBS AT 1100Z

APRX ~~220KM BY 35KM~~50KM WID LINE BTN S1500 E07348 — S1530 E07642 FL310/450 MOV SE
~~35KT~~INTSF FCST AT 1700Z VA CLDAPRX 50KM WID LINE BTN S1506 E07500 — S1518 E08112 — S1712
E08330 — S1824 E07836

Meaning:

The second SIGMET message issued for the SHANLON* flight information region (identified by YUDD Shanlon area control centre/upper flight information region) by the Shanlon/International* meteorological watch office (YUSO) since 0001 UTC; the message SIGMET is valid from 11.00 UTC to 17.00 UTC on the 21st of the month; volcanic ash eruption of Mount Ashval* located at 15 degrees south and 73 degrees 48 minutes east; volcanic ash cloud observed at 11.00 UTC in an approximate area of 220 km by 35 km approximately 50 km wide line between 15 degrees south and 73 degrees 48 minutes east, and 15 degrees 30 minutes south and 76 degrees 42 minutes east; between flight levels 310 and 450, the volcanic ash cloud is expected to move south-eastwards at 35 knots; intensifying at 17.00 UTC, the volcanic ash cloud is forecast to be located in an approximately 50 km wide line

between in an area bounded by the following points: 15 degrees 6 minutes south and 75 degrees east, 15 degrees 18 minutes south and 81 degrees 12 minutes east, and 17 degrees 12 minutes south and 83 degrees 30 minutes east and 18 degrees 24 minutes south and 78 degrees 36 minutes east.

* Fictitious locations

58. GM5 MET.TR.250(a) is amended as follows:

GM5 MET.TR.250(a) SIGMET messages

EXAMPLE OF SIGMET MESSAGE FOR RADIOACTIVE CLOUD

YUCC SIGMET 2 VALID 201200/201600 YUDO — YUCC AMSWELL FIR RDOACT CLD OBS AT 1155Z WI S5000 W14000 — S5000 W13800 — S5200 W13800 — S5200 W14000 — S5000 W14000 SFC/FL100 STNR-WKN FCST AT 1600Z WI S5200 W14000 — S5200 W13800 — S5300 W14000 — S5200 W14000

Meaning:

The second SIGMET message issued for the AMSWELL* flight information region (identified by YUCC Amswell area control centre) by the Donlon/International* meteorological watch office (YUDO) since 00,01 UTC; the message SIGMET is valid from 12,00 UTC to 16,00 UTC on the 20th of the month; radioactive cloud was observed at 11,55 UTC within an area bounded by 50 degrees 0 minutes south and 140 degrees 0 minutes west to 50 degrees 0 minutes south and 138 degrees 0 minutes west to 52 degrees 0 minutes south and 140 degrees 0 minutes west to 50 degrees 0 minutes south and 140 degrees 0 minutes west and between the surface and flight level 100; the radioactive cloud is expected to remain stationary and to weaken in intensity; at 16,00 UTC, the radioactive cloud is forecast to be located within an area bounded by 52 degrees 0 minutes south 140 degrees 0 minutes west to 52 degrees 0 minutes south 138 degrees 0 minutes west to 53 degrees 0 minutes south 138 degrees 0 minutes west to 53 degrees 0 minutes south 140 degrees 0 minutes west to 52 degrees 0 minutes south 140 degrees 0 minutes west.

* Fictitious locations

59. GM6 MET.TR.250(a) is amended as follows:

GM6 MET.TR.250(a) SIGMET messages

EXAMPLE OF SIGMET MESSAGE FOR SEVERE TURBULENCE

YUCC SIGMET 5 VALID 221215/221600 YUDO —

YUCC AMSWELL FIR SEV TURB OBS AT 1210Z N2020 W07005 FL250 MOV E 20KT WKN INTSF FCST AT 1600Z S OF N2020 AND E OF W06950

Meaning:

The fifth SIGMET message issued for the AMSWELL* flight information region (identified by YUCC Amswell area control centre) by the Donlon/International* meteorological watch office (YUDO) since 00,01 UTC; the message SIGMET is valid from 12,15 UTC to 16,00 UTC on the 22nd of the month; severe turbulence was observed at 12,10 UTC 20 degrees 20 minutes north and 70 degrees 5 minutes west at flight level 250; the turbulence is expected to move eastwards at 20 knots and to weaken strengthen in

intensity; ~~forecast position~~ at 16.00 UTC, the severe turbulence is forecast to be located south of 20 degrees 20 minutes north and east of 69 degrees 50 minutes west.

** Fictitious locations*

60. AMC1 MET.TR.250(c) is amended as follows:

AMC1 MET.TR.250(c) SIGMET-messages
SEQUENCE NUMBER

(a) The three-character sequence number should be constructed using a single letter identifying the phenomenon, followed by two numeric characters corresponding to the number of SIGMET issued for that phenomenon for the specified flight information region since 00.01 UTC on the day concerned.

~~(a)~~(b) The letters to be used as the first character for the SIGMET sequence number to indicate the specified en-route weather phenomena which may affect the safety of aircraft operations for which the SIGMET has been issued should be:

(...)

61. AMC2 MET.TR.250(c) is deleted.

62. AMC1 MET.TR.250(d) is amended as follows:

AMC1 MET.TR.250(d) SIGMET-messages

(...)

63. GM1 MET.TR.250(d) is amended as follows:

GM1 MET.TR.250(d) SIGMET-messages

(...)

64. AMC1 MET.TR.250(f) is amended as follows:

AMC1 MET.TR.250(f) SIGMET-messages
SIGMET — DIGITAL FORM

SIGMET-messages should be disseminated in a digital form, in addition to the abbreviated plain language.

65. GM1 MET.TR.250(f)(1) is amended as follows:

GM1 MET.TR.250(f)(1) SIGMET-messages
SIGMET — DIGITAL FORM

(a) When SIGMET is disseminated in digital form, this is in addition to the SIGMET code form.

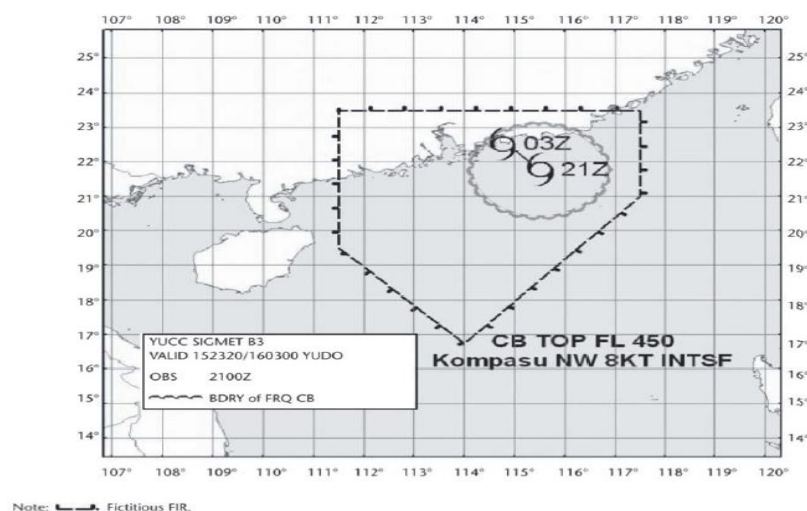
- (b) Guidance on the information exchange model, GML, and the metadata profile is provided in the Manual on the Digital Exchange of Aeronautical Meteorological Information (ICAO Doc 10003).

66. AMC1 MET.TR.250(g) is added:

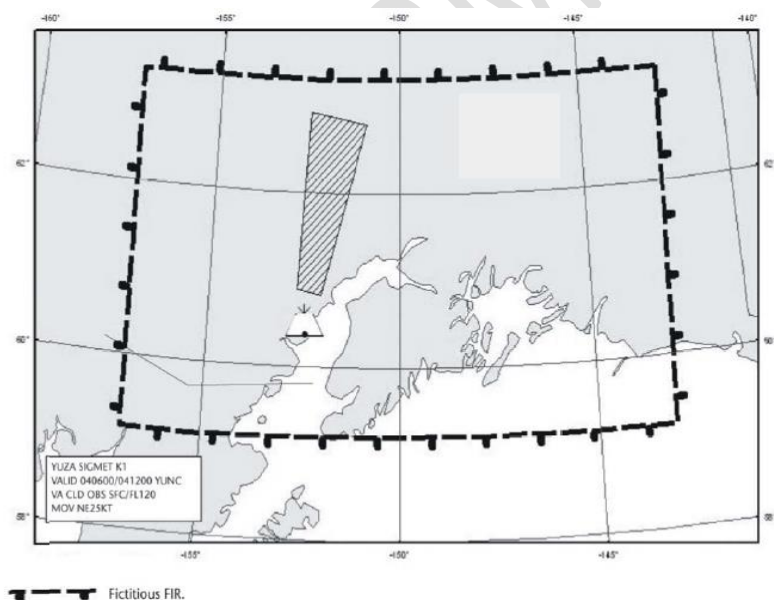
**AMC1 MET.TR.250(g) SIGMET
FORMAT**

SIGMET, when issued in graphical format, should be as specified below:

(a) SIGMET FOR TROPICAL CYCLONE — MODEL STC

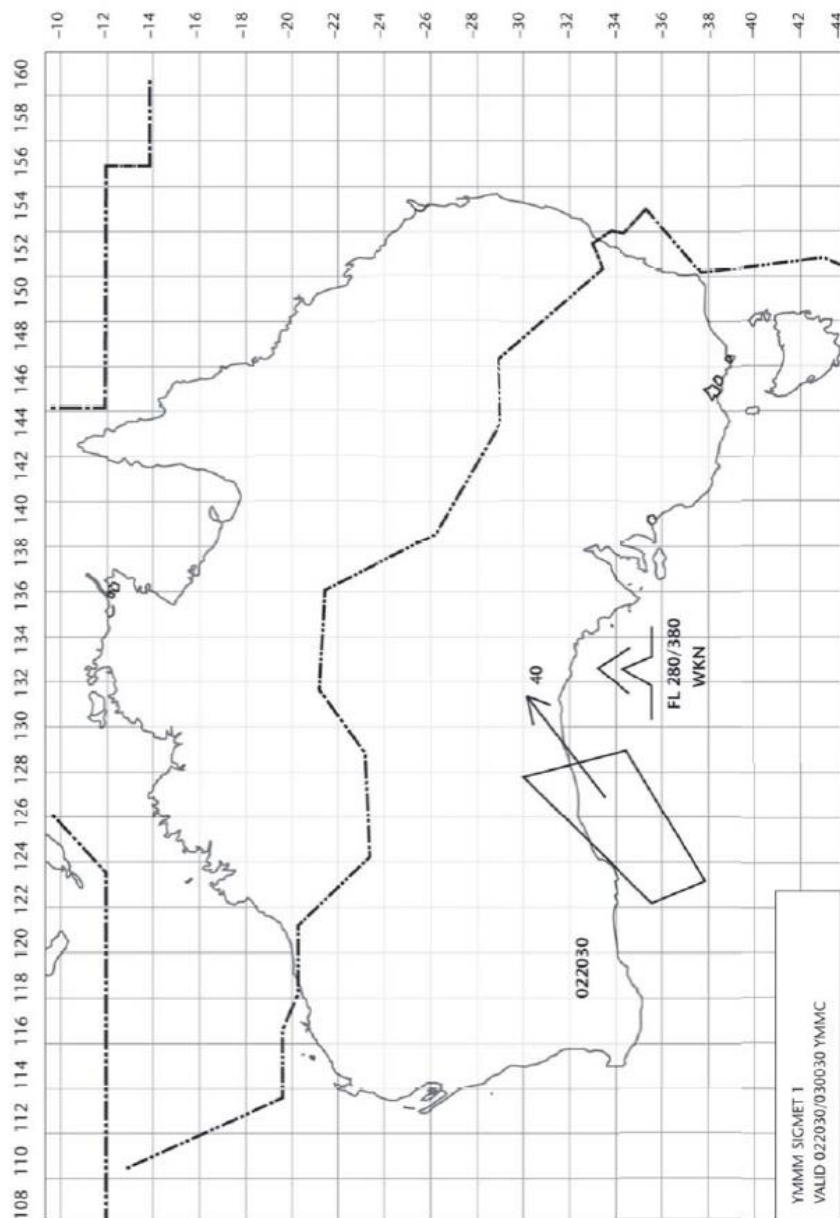


(b) SIGMET FOR VOLCANIC ASH — MODEL SVA



(c) SIGMET FOR PHENOMENA OTHER THAN TROPICAL CYCLONE AND VOLCANIC ASH — MODEL SGE

FOR INFO



ONLY

67. GM1 MET.TR.255(a) is amended as follows:

GM1 MET.TR.255(a) AIRMET-messages

EXAMPLE OF AIRMET MESSAGE FOR MODERATE MOUNTAIN WAVE

YUCC AIRMET 2 VALID 221215/221600 YUDO — YUCC AMSWELL FIR MOD MTW OBS AT 1205Z N48 E010 FL080 STNR NC

Meaning:

The second AIRMET message issued for the AMSWELL* flight information region (identified by YUCC Amswell area control centre) by the Donlon/International* meteorological watch office (YUDO) since 00,01 UTC; the message AIRMET is valid from 12,15 UTC to 16,00 UTC on the 22nd of the month; moderate mountain wave was observed at 12,05 UTC at 48 degrees north and 10 degrees east at flight level 080; the mountain wave is expected to remain stationary and not to undergo any changes in intensity.

* Fictitious locations

68. GM2 MET.TR.255(a) is amended as follows:

GM2 MET.TR.255(a) AIRMET-messages

EXAMPLE OF AIRMET MESSAGES, AND THE CORRESPONDING CANCELLATIONS

(...)

69. GM1 MET.TR.255(b) is amended as follows:

GM1 MET.TR.255(b) AIRMET-messages

(...)

70. GM1 MET.TR.255(c) is amended as follows:

GM1 MET.TR.255(c) AIRMET-messages

(...)

71. GM1 MET.TR.255(d) is amended as follows:

GM1 MET.TR.255(d) AIRMET-messages

(...)

72. AMC1 MET.TR.255(e) is added:

AMC1 MET.TR.255(e) AIRMET

AIRMET — DIGITAL FORM

AIRMET should be disseminated in digital form.

73. GM1 MET.TR.255(e) is added:

GM1 MET.TR.255(e) AIRMET
AIRMET — DIGITAL FORM

- (a) When AIRMET is disseminated in digital form, this is in addition to the AIRMET code form.
- (b) Guidance on the information exchange model, GML, and metadata profile is provided in the Manual on the Digital Exchange of Aeronautical Meteorological Information (ICAO Doc 10003).

74. AMC1 MET.TR.260 is amended as follows:

AMC1 MET.TR.260 Area forecasts for low-level flights
AMENDMENT OF LOW-LEVEL FORECASTS

(...)

- (c) The graphical part of a SIGWX chart should depict the weather situation at the beginning of the validity period. Significant changes of initial weather parameters should be depicted together with time intervals determining the duration of expected changes.

75. GM1 MET.TR.265(a) is amended as follows:

GM1 MET.TR.265(a) Volcanic ash advisory centres (VAACs) responsibilities
EXAMPLES OF ADVISORY MESSAGE FOR VOLCANIC ASH

VA ADVISORY
DTG: 20160614/0925Z
VAAC: LONDON
VOLCANO: HEKLA 372070
PSN: N6359 W01942
AREA: ICELAND
SUMMIT ELEV: 1491M
ADVISORY NR: 2016/002
INFO SOURCE: ICELAND MET OFFICE
AVIATION COLOUR CODE: RED
ERUPTION DETAILS: EXERCISE EXERCISE EXERCISE ERUPTION
ONGOING, PLUME TO 14KM
OBS VA DTG: 14/0900Z
OBS VA CLD: SFC/FL200 N6421 W02030 - N6421 W01900 - N6315 W01856 - N6303 W02025 - N6421 W02030 FL200/350 N6423 W02021 - N6423 W01854 - N6309 W01856 - N6309 W02022 - N6423 W02021 FL350/550 N6422 W02023 - N6422 W01856 - N6304 W01854 - N6306 W02023 - N6422 W02023
FCST VA CLD +6HR: 14/1500Z SFC/FL200 N6423 W01822 - N6138 W01826 - N6135 W02205 - N6423 W02213 - N6423 W01822 FL200/350 N6425 W01814 - N6051 W01825 - N6050 W02348 - N6424 W02055 - N6425 W01814 FL350/550 N6419 W01737 - N6109 W01753 - N6116 W02234 - N6423 W02108 - N6419 W01737
FCST VA CLD +12HR: 14/2100Z SFC/FL200 N6449 W02121 - N6441 W01717 - N5921 W01659 - N5922 W02419 - N6449 W02121 FL200/350 N6441 W02002 - N6227 W01556 - N5831 W01927 - N5833

W02629 - N6441 W02002 FL350/550 N6448 W01941 - N6117 W01507 - N5846 W02024 - N5910
W02520 - N6448 W01941

FCST VA CLD +18HR: 15/0300Z SFC/FL200 N6554 W02018 - N6053 W01348 - N5542 W02046 - N5606
W02724 - N6554 W02018 FL200/350 N6446 W01949 - N6039 W01415 - N5535 W02019 - N5538
W02851 - N6446 W01949 FL350/550 N6500 W01928 - N5918 W01407 - N5516 W02235 - N5927
W02532 - N6500 W01928

RMK: EXERCISE EXERCISE EXERCISE T+0 CONFIDENCE HIGH, PLUME HEIGHT OBTAINED BY MOBILE
RADAR

NXT ADVISORY: WILL BE ISSUED BY 20160614/1200Z

Note: the example above is based upon an Exercise and is appropriately noted. During a real event the references to Exercise would be omitted.

VA ADVISORY

DTG: 20171010/1200Z

VAAC: TOULOUSE

VOLCANO: CAMPI FLEGREI 211010

PSN: N4049 E01408

AREA: ITALY

SUMMIT ELEV: 458M

ADVISORY NR: 2017/03

INFO SOURCE: INGV

AVIATION COLOUR CODE: RED

ERUPTION DETAILS: EXERCISE VOLCITA 2017 EXERCISE THE VOLCANO

ACTIVITY IS DECREASING

OBS VA DTG: 10/0600Z

OBS VA CLD: SFC/FL100 N4135 E01325 - N4155 E01410 - N4155 E01610 -
N4000 E01655 - N4005 E01335 - N4135 E01325 FL100/390 N4130 E01335 -
N4150 E01410 - N4115 E01645 - N3940 E01925 - N3715 E01800 - N3745
E01630 - N3910 E01500 - N4000 E01335 - N4130 E01335 MOV SE 20KT

FCST VA CLD +6HR: 10/1800Z SFC/FL100 N4150 E01255 - N4220 E01535 -
N4115 E01845 - N3940 E01955 - N3820 E01915 - N4000 E01235 - N4150
E01255 FL100/390 N4135 E01310 - N4120 E02050 - N3750 E02335 - N3520
E02215 - N3525 E01935 - N3840 E01640 - N3945 E01255 - N4135 E01310

FCST VA CLD +12HR: 11/0000Z SFC/FL100 N4150 E01210 - N4215 E01530 -
N4130 E01935 - N3925 E02200 - N3700 E02125 - N3830 E01650 - N3920
E01220 - N4150 E01210 FL100/390 N4130 E01310 - N4140 E02020 - N4030
E02400 - N3645 E02555 - N3455 E02350 - N3810 E01820 - N3935 E01255 -
N4130 E01310

FCST VA CLD +18HR: 11/0600Z SFC/FL100 N4125 E01255 - N4120 E01820 -
N4000 E02405 - N3530 E02430 - N3540 E02220 - N3725 E01845 - N3840
E01320 - N4115 E01255 - N4125 E01255 FL100/390 N4135 E01300 - N4145
E02010 - N4115 E02650 - N3900 E03105 - N3250 E02805 - N3720 E01830 -
N3845 E01340 - N4135 E01300

RMK: EXERCISE EXERCISE EXERCISE

NXT ADVISORY: NO FURTHER ADVISORY

Note: the example above is based on an exercise and is appropriately noted. During a real event, the references to 'exercise' would be omitted.

~~FVFE01 RJTD 230130~~

VA ADVISORY

DTG: 20080923/0130Z
VAAC: TOKYO
VOLCANO: KARYMSKY 1000 13
PSN: N5403 E15927
AREA: RUSSIA
SUMMIT ELEV: 1536M
ADVISORY NR: 2008/4
INFO SOURCE: MTSAT 1R KVERT KEMSD
AVIATION COLOUR CODE: RED
ERUPTION DETAILS: ERUPTION AT 20080923/0000Z FL300 REPORTED
OBS VA DTG: 23/0100Z
OBS VA CLD: FL250/300 N5400 E15930 — N5400 E16100 — N5300 E15945 MOV SE 20KT SFC/FL200 N5130 E16130 — N5130 E16230 — N5230 E16230 — N5230 E16130 MOV SE 15KT
FCST VA CLD +6 HR: 23/0700Z FL250/350 N5130 E16030 — N5130 E16230 — N5330 E16230 — N5330 E16030 SFC/FL180 N4830 E16330 — N4830 E16630 — N5130 E16630 — N5130 E16330
FCST VA CLD +12 HR: 23/1300Z SFC/FL270 N4830 E16130 — N4830 E16600 — N5300 E16600 — N5300 E16130
FCST VA CLD +18 HR: 23/1900Z NO VA EXP
RMK: LATEST REP FM KVERT (0120Z) INDICATES ERUPTION HAS CEASED. TWO DISPERSING VA CLD ARE EVIDENT ON SATELLITE IMAGERY
NXT ADVISORY: 20080923/0730Z

76. AMC1 MET.TR.265(b) is added:

AMC1 MET.TR.265(b) Volcanic ash advisory centres (VAACs) responsibilities
VOLCANIC ASH ADVISORY — DIGITAL FORM

Volcanic ash advisory should be disseminated in digital form.

77. GM1 MET.TR.265(b) is added:

GM1 MET.TR.265(b) Volcanic ash advisory centres (VAACs) responsibilities
VOLCANIC ASH ADVISORY — DIGITAL FORM

- (a) When volcanic ash advisory is disseminated in digital form, this is in addition to the volcanic ash advisory code form.
- (b) Guidance on the information exchange model, GML, and metadata profile is provided in ICAO Doc 10003 'Manual on the Digital Exchange of Aeronautical Meteorological Information'.

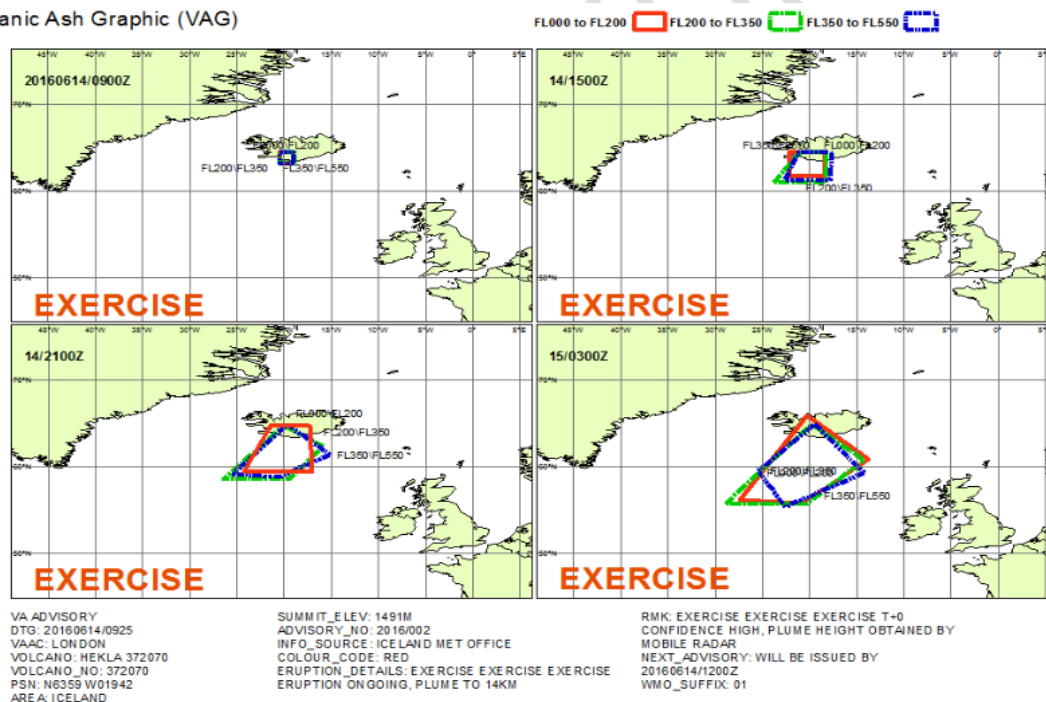
78. GM1 MET.TR.265(b)(2) is deleted.

79. AMC1 MET.TR.265(c) is added:

AMC1 MET.TR.265(c) Volcanic ash advisory centres (VAACs) responsibilities
VOLCANIC ASH ADVISORY INFORMATION — GRAPHICAL FORMAT

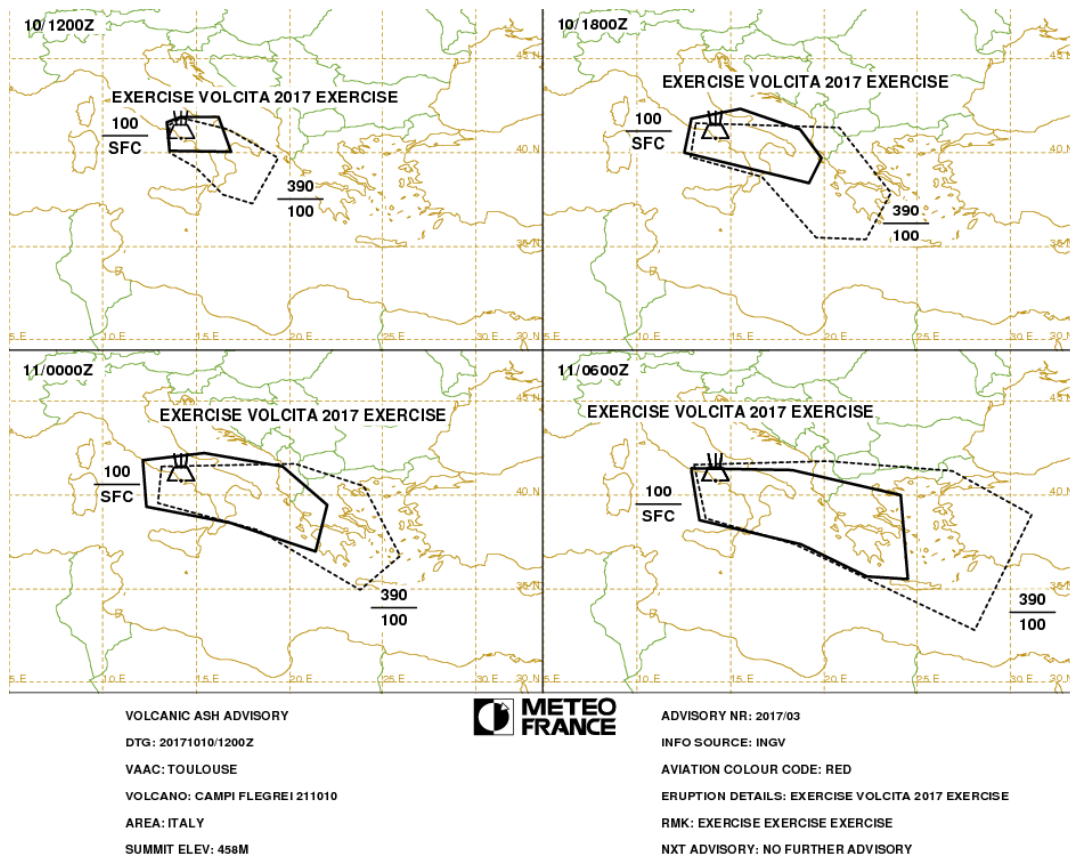
The volcanic ash advisory information listed in Appendix 6 of Annex V (Part-MET) to Regulation (EU) 2017/373, when prepared in graphical format, should be as specified below.

Volcanic Ash Graphic (VAG)



Example of volcanic ash advisory in graphical format from the London VAAC.

Note: the example above is based on an exercise and is labelled accordingly. During a real event, the references to 'exercise' would be omitted.



Example of volcanic ash advisory in graphical format from the Toulouse VAAC.

Note: the example above is based on an exercise and is labelled accordingly. During a real event, the references to 'exercise' would be omitted.

80. AMC1 MET.TR.270(b) is deleted.
81. GM1 MET.TR.270(b) is deleted.
82. GM2 MET.TR.270(b) is amended as follows:

GM2GM1 MET.TR.270(b) Tropical cyclone advisory centres (TCACs) responsibilities
EXAMPLE FOR ADVISORY MESSAGE FOR TROPICAL CYCLONES

TC ADVISORY
DTG:20170214/0600z
TCAC:REUNION
TC:DINEO
NR:4
PSN:S2220 E03849
MOV:SW 05KT
C:985HPA

MAX WIND:50KT
 FCST PSN +06HR:14/1200Z S2236 E03831
 FCST MAX WIND +06HR:55KT
 FCST PSN +12HR:14/1800Z S2251 E03812
 FCST MAX WIND +12HR:60KT
 FCST PSN +18HR:15/0000Z S2304 E03748
 FCST MAX WIND +18HR:70KT
 FCST PSN +24HR:15/0600Z S2316 E03712
 FCST MAX WIND +24HR:80KT
 RMK:NIL
 NXT MSG:20170214/1200Z

Note: the example above is based on a real event.

TC ADVISORY

DTG:	20040925/1600Z
TCAC:	YUFO
TC:	GLORIA
NR:	01
PSN:	N2706 W07306
MOV:	NW 12KT
C:	965HPA
MAX WIND:	73KT
FCST PSN +6 HR:	25/2200Z N2748 W07350
FCST MAX WIND +6 HR:	73KT
FCST PSN +12 HR:	26/0400Z N2830 W07430
FCST MAX WIND +12	73KT
HR:	
FCST PSN +18 HR:	26/1000Z N2852 W07500
FCST MAX WIND +18	70KT
HR:	
FCST PSN +24 HR:	26/1600Z N2912 W07530
FCST MAX WIND +24	60KT
HR:	
RMK:	NIL
NXT MSG:	20040925/2000Z

83. AMC1 MET.TR.270(c) is added:

AMC1 MET.TR.270(c) Tropical cyclone advisory centres (TCACs) responsibilities

TROPICAL-CYCLONE ADVISORY — DIGITAL FORM

Tropical-cyclone advisory should be disseminated in digital form.

84. GM1 MET.TR.270(c) is added:

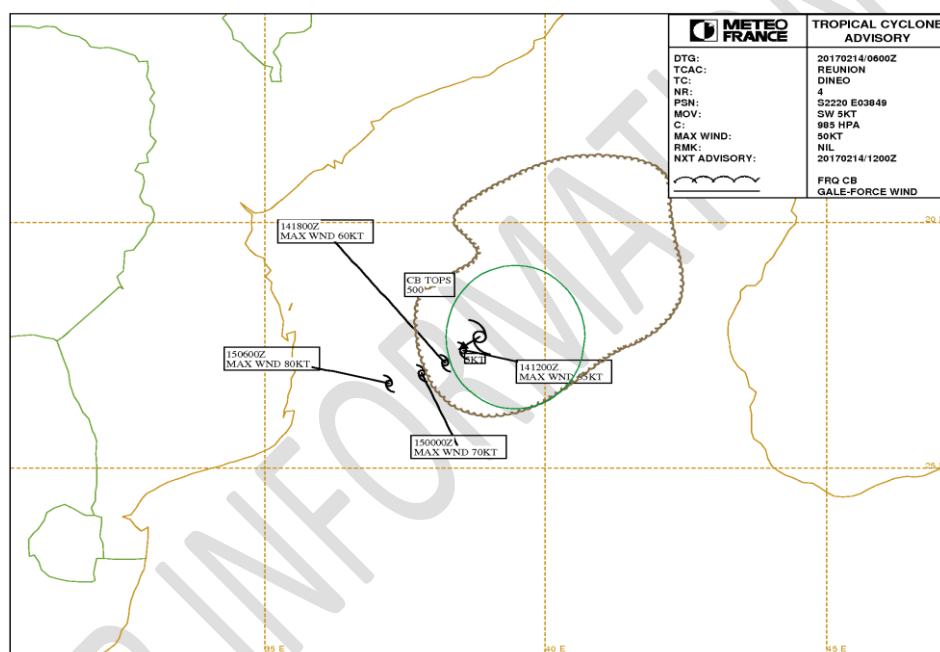
GM1 MET.TR.270(c) Tropical cyclone advisory centres (TCACs) responsibilities
TROPICAL-CYCLONE ADVISORY — DIGITAL FORM

- (a) When tropical cyclone advisory is disseminated in digital form, this is in addition to the tropical cyclone advisory code form.
- (b) Guidance on the information exchange model, GML, and metadata profile is provided in ICAO Doc 10003 'Manual on the Digital Exchange of Aeronautical Meteorological Information'.

85. AMC1 MET.TR.270(d) is added:

AMC1 MET.TR.270(d) Tropical cyclone advisory centres (TCACs) responsibilities
TROPICAL CYCLONE ADVISORY INFORMATION — GRAPHICAL FORMAT

The tropical cyclone advisory information listed in Appendix 7 of Annex V (Part-MET) to Regulation (EU) 2017/373, when prepared in graphical format, should be as specified below.



Example of tropical cyclone advisory in graphical format from the La Réunion TCAC.

Note: the example above is based on a real event.