COMMISSION IMPLEMENTING REGULATION (EU) 2021/1338

of 11 August 2021

amending Implementing Regulation (EU) 2017/373 as regards reporting requirements and reporting channels between organisations, and requirements for meteorological services

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 ([1]), and in particular Article 43(1), points (a) and (f), Article 62(15), points (a) and (c), and Article 72(5) thereof,

Whereas:

(1) Commission Implementing Regulation (EU) 2017/373 ([2]) lays down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions for general air traffic and their oversight.

(2) In accordance with point 5.1(g) of Annex VIII to Regulation (EU) 2018/1139, service providers are to establish an occurrence-reporting system as part of their management system so as to contribute to the continuous improvement of safety. To ensure compliance with, and uniform implementation of, this essential requirement, as well as to ensure that the resulting provisions are aligned with Regulation (EU) No 376/2014 of the European Parliament and of the Council ([3]) on the reporting, analysis and follow-up of occurrences in civil aviation, Implementing Regulation (EU) 2017/373 should be amended accordingly.

(3) On 7 March 2018 and on 9 March 2020, the International Civil Aviation Organization (ICAO) adopted Amendment 78 and Amendment 79, respectively, to Annex 3 to the Convention on International Civil Aviation, signed on 7 December 1944 in Chicago ('the Chicago Convention') aiming, among other things, to enhance and improve harmonisation as regards the exchange of meteorological observations and reports (aerodrome routine meteorological reports (METAR)/aerodrome special meteorological reports (SPECI)), aerodrome forecasts (TAF), information concerning en-route weather phenomena which may affect the safety of aircraft operations (SIGMET), information concerning en-route weather phenomena which may affect the safety of low-level aircraft operations (AIRMET), volcanic ash and tropical cyclone advisory information, space weather advisory information, etc., in a system-wide information management (SWIM)-compliant environment. Those amendments are applicable in the ICAO Contracting States as of 8 November 2018 and 5 November 2020, respectively, except for the METAR format, the date of application of which is aligned with the date of application, 12 August 2021, for the new global reporting format ('GRF') for runway surface conditions. Those international standards and recommended practices should be reflected in Implementing Regulation (EU) 2017/373, in particular in the specific organisation requirements for meteorological service providers set out in Annex V to that Regulation.

([1]) OJ L 212, 22.8.2018, p. 1.

([2]) Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 (OJ L 62, 8.3.2017, p. 1).

([3]) Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

(4) One of the enabling elements for the implementation of the GRF for runway surface conditions is the SNOWTAM format, whose instructions for completion should be in line with the latest ICAO Procedures for Air Navigation Services – Aeronautical Information Management ([4]), and should also be consistent with Commission Regulation (EU) No 965/2012 ([5]) and Commission Regulation (EU) No 139/2014 ([6]).

(5) Implementing Regulation (EU) 2017/373 should therefore be amended accordingly.

(6) The measures provided for in this Regulation are based on Opinion No 01/2021 ([7]) of the European Union Aviation Safety Agency in accordance with Article 75(2), points (b) and (c), and Article 76(1) of Regulation (EU) 2018/1139.

(7) The measures provided for in this Regulation are in accordance with the opinion of the committee established by Article 127 of Regulation (EU) 2018/1139,

HAS ADOPTED THIS REGULATION:

Article 1

Annexes I, II, III, V and VI to Implementing Regulation (EU) 2017/373 are amended in accordance with Annexes I to V to this Regulation, respectively.

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Point 32 of Annex IV and Annex V shall apply from 12 August 2021.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 11 August 2021.

For the Commission
The President
Ursula VON DER LEYEN

([4]) International Civil Aviation Organization Procedures for Air Navigation Services – Aeronautical Information Management, Doc 10066.

([5]) Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).

([6]) Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.2014, p. 1).

([7]) Opinion No 01/2021 of the European Union Aviation Safety Agency, Occurrence-reporting requirements and requirements for meteorological services, https://www.easa.europa.eu/document-library/opinions

ANNEX I

Annex I to Implementing Regulation (EU) 2017/373 is amended as follows:

(1) point (37) is replaced by the following:

'(37) "cloud of operational significance" means a cloud with the height of cloud base below 5 000 ft or below the highest minimum sector altitude, whichever is greater, or a cumulonimbus cloud or a towering cumulus cloud at any height;';

(2) point (107) is replaced by the following:

'(107) "volcanic ash advisory centre (VAAC)" means a meteorological centre that provides advisory information to meteorological watch offices, area control centres, flight information centres, world area forecast centres and international OPMET databanks regarding the lateral and vertical extent and forecast movement of volcanic ash in the atmosphere;';

(3) point (168) is replaced by the following:

'(168) "data link-VOLMET (D-VOLMET)" means the provision of aerodrome routine meteorological report (METAR), aerodrome special meteorological report (SPECI), TAF, SIGMET, special air-reports not covered by a SIGMET and, where available, AIRMET via data link;';

(4) the following points (264) to (266) are added:

'(264) "volcano observatory" means a provider, selected by the competent authority, which observes the activity of a volcano or a group of volcanoes and makes these observations available to an agreed list of aviation recipients;

(265) "Geography Markup Language (GML)" means an encoding standard of the Open Geospatial Consortium (OGC);

(266) "space weather centre (SWXC)" means a centre designated to monitor and provide advisory information on space weather phenomena expected to affect high-frequency radio communications, communications via satellite, GNSS-based navigation and surveillance systems and/or pose a radiation risk to aircraft occupants.'.

ANNEX II

Annex II to Implementing Regulation (EU) 2017/373 is amended as follows:

(1) point ATM/ANS.AR.A.020 is replaced by the following:

'ATM/ANS.AR.A.020 Information to the Agency

(a) The competent authority shall notify the Agency in case of any significant problems with the implementation of Regulation (EU) 2018/1139 and its delegated and implementing acts within 30 days from the time the competent authority has become aware of the problems.

(b) Without prejudice to Regulation (EU) No 376/2014 of the European Parliament and of the Council (*) and its delegated and implementing acts, the competent authority shall provide the Agency with safety-significant information stemming from the occurrence reports stored in its national database in accordance with Article 6(6) of Regulation (EU) No 376/2014, as soon as possible.';

(*) Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

(2) point ATM/ANS.AR.B.001 is amended as follows:

(a) in point (a), point (1) is replaced by the following:

'(1) documented policies and procedures to describe its organisation, means and methods to achieve compliance with Regulation (EU) 2018/1139 and the delegated and implementing acts adopted on the basis thereof, as necessary, for the exercise of its certification, oversight and enforcement tasks. The procedures shall be kept up to date and serve as the basic working documents within that competent authority for all related tasks;'

(b) point (c) is replaced by the following:

'(c) The competent authority shall establish procedures for the participation in a mutual exchange of all necessary information and assistance with other competent authorities concerned, whether from within the Member State or in other Member States, including the following information:

(1) the relevant findings raised and follow-up actions taken as a result of oversight of ATM/ANS providers exercising activities in the territory of a Member State, but certified by the competent authority of another Member State or the Agency; and

(2) stemming from mandatory and voluntary occurrence reporting as required by point ATM/ANS.OR.A.065.';

(3) point ATM/ANS.AR.B.010 is replaced by the following:

'ATM/ANS.AR.B.010 Changes in the management system

(a) The competent authority shall have a system in place to identify changes that affect its capability to perform its tasks and discharge its responsibilities under Regulation (EU) 2018/1139 and the delegated and implementing acts adopted on the basis thereof. This system shall enable it to take action, as appropriate, to ensure that the management system remains adequate and effective.

(b) The competent authority shall update its management system to reflect any changes to Regulation (EU) 2018/1139 and the delegated and implementing acts adopted on the basis thereof, in a timely manner, so as to ensure the effective implementation of its management system.

(c) The competent authority shall notify the Agency of changes affecting its capability to perform its tasks and discharge its responsibilities under Regulation (EU) 2018/1139 and the delegated and implementing acts adopted on the basis thereof.'.

ANNEX III

Annex III to Implementing Regulation (EU) 2017/373 is amended as follows:

(1) the title is replaced by the following:

'*ANNEX III*

COMMON REQUIREMENTS FOR ATM/ANS PROVIDERS

(Part-ATM/ANS.OR);'

(2) point ATM/ANS.OR.A.065 is replaced by the following:

'**ATM/ANS.OR.A.065 Occurrence reporting**

(a) As part of its management system, the ATM/ANS provider shall establish and maintain an occurrence-reporting system, including mandatory and voluntary reporting. ATM/ANS providers established in a Member State shall ensure that the system complies with the requirements of Regulation (EU) No 376/2014 and Regulation (EU) 2018/1139, as well as with the delegated and implementing acts adopted on the basis of those regulations.

(b) The ATM/ANS provider shall report to the competent authority and to any other organisation required to be informed by the Member State, where the ATM/ANS provider provides its services, any safety-related event or condition that endangers or, if not corrected or addressed, could endanger an aircraft, its occupants or any other person, and in particular any accident or serious incident.

(c) Without prejudice to point (b), the ATM/ANS provider shall report to the competent authority and to the organisation responsible for the design and/or maintenance of the ATM/ANS systems and constituents, if different from the ATM/ANS provider, any malfunction, technical defect, exceedance of technical limitations, occurrence, or other irregular circumstance that has or may have endangered the safety of services and has not resulted in an accident or serious incident.

(d) Without prejudice to Regulation (EU) No 376/2014 and the delegated and implementing acts adopted on the basis thereof, reports shall:

(1) be made as soon as practicable, but in any case within 72 hours after the ATM/ANS provider has become aware of the event or condition to which the report relates, unless exceptional circumstances prevent this;

(2) be made in a form and manner established by the competent authority;

(3) contain all pertinent information about the condition known to the ATM/ANS provider.

(e) For ATM/ANS providers that are not established in a Member State, initial mandatory reports shall:

(1) appropriately safeguard the confidentiality of the identity of the reporter and of the persons mentioned in the report;

(2) be made as soon as practicable, but in any case within 72 hours after the ATM/ANS provider has become aware of the occurrence, unless exceptional circumstances prevent this;

(3) be made in a form and manner established by the competent authority;

(4) contain all pertinent information about the condition known to the ATM/ANS provider.

(f) Without prejudice to Regulation (EU) No 376/2014 and its delegated and implementing acts, where relevant, a follow-up report providing details of actions the organisation intends to take to prevent similar occurrences in the future shall be made as soon as these actions have been identified; those follow-up reports shall:

(1) be sent to the relevant entities initially reported to in accordance with points (b) and (c); and

(2) be made in a form and manner established by the competent authority.'.

ANNEX IV

Annex V to Implementing Regulation (EU) 2017/373 is amended as follows:

(1) point MET.OR.115 is replaced by the following:

'**MET.OR.115 Meteorological bulletins**

The meteorological services provider responsible for the area concerned shall provide meteorological bulletins to the relevant users.';

(2) point MET.OR.120 is replaced by the following:

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

The meteorological services provider using WAFS SIGWX forecasts shall notify the WAFC 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 or dust storms;

(b) volcanic eruptions or a release of radioactive materials into the atmosphere of significance to aircraft operations.';

(3) point MET.OR.200 is replaced by the following:

'**MET.OR.200 Meteorological reports and other information**

(a) An aeronautical meteorological station shall issue:

(1) local routine report at fixed intervals, only for dissemination at the aerodrome of origin;

(2) local special report, only for dissemination at the aerodrome of origin;

(3) METAR at half-hourly intervals at aerodromes serving scheduled international commercial air transport operations for dissemination beyond the aerodrome of origin;

(b) Notwithstanding point (a)(3), the aeronautical meteorological station may issue hourly METAR and SPECI for dissemination beyond the aerodrome of origin, for aerodromes not serving scheduled international commercial air transport operations, as determined by the competent authority;

(c) An aeronautical meteorological station shall inform the air traffic service units and aeronautical information service of an aerodrome of changes in the serviceability status of the automated equipment used for assessing runway visual range;

(d) An aeronautical meteorological station shall report to the associated air traffic services unit, aeronautical information services unit, and meteorological watch office the occurrence of pre-eruption volcanic activity, volcanic eruptions and volcanic ash cloud;

(e) An aeronautical meteorological station shall establish a list of criteria to provide local special reports in consultation with the appropriate ATS units, operators and others concerned.';

(4) point MET.OR.240 is replaced by the following:

'**MET.OR.240 Information for use by operator or flight crew**

An aerodrome meteorological office shall provide operators and flight crew members with the latest available:

(a) forecasts, originating from the WAFS, of the elements listed in points (1) and (2) of point MET.OR.275(a);

(b) METAR or SPECI, including TREND, TAF or amended TAF for the aerodromes of departure and intended landing, and for take-off, en-route and destination alternate aerodromes;

(c) aerodrome forecasts for take-off;

(d) SIGMET and special air-reports relevant to the whole route;

(e) volcanic ash, tropical cyclone and space weather advisory information relevant to the whole route;

(f) area forecasts for low-level flights prepared in combination with the issuance of AIRMET, and AIRMET relevant to the whole route;

(g) aerodrome warnings for the local aerodrome;

(h) meteorological satellite images;

(i) ground-based weather radar information.';

(5) point MET.OR.242 is amended as follows:

(a) in point (a), point (1) is replaced by the following:

'(1) local routine report, local special report, METAR, SPECI, TAF and TREND and amendments thereto;';

(b) in point (b), point (1) is replaced by the following:

'(1) local routine report, local special report, METAR, SPECI, TAF and TREND and amendments thereto;';

(6) in point MET.OR.245, point (f)(1) is replaced by the following:

'(1) METAR and SPECI, including current pressure data for aerodromes and other locations, TAF, TREND and amendments thereto;';

(7) in point MET.OR.250, point (a) is replaced by the following:

'(a) issue SIGMET;';

(8) in point MET.OR.255, point (a) is replaced by the following:

'(a) issue AIRMET when the competent authority has determined that the density of traffic operating below flight level 100, or up to flight level 150 in mountainous areas, or higher, where necessary, warrants the issue of AIRMET in combination with area forecasts for low-level flights';

(9) point MET.OR.260 is replaced by the following:

'**MET.OR.260 Area forecasts for low-level flights**

A meteorological watch office shall ensure that:

(a) in the case of AIRMET being issued in combination with area forecasts for low-level flights in accordance with point MET.OR.255(a), area forecasts for low-level flights are issued every 6 hours for a period of validity of 6 hours and transmitted to the meteorological watch offices concerned not later than 1 hour prior to the beginning of their validity period;

(b) in the case where the competent authority has determined that the density of traffic operating below flight level 100, or up to flight level 150 in mountainous areas, or higher, where necessary, warrants the routine issue of area forecasts for low-level flights not in combination with AIRMET, the frequency of issue, the form, and the fixed time or period of validity of the area forecast for low-level flights and the criteria for amendments thereto, are as determined by the competent authority.';

(10) the title of Chapter 4 is replaced by the following:

'***Chapter 4** – **Requirements for volcanic ash advisory centres (VAACs)***';

(11) in point MET.OR.265, point (a) is replaced by the following:

'(a) when a volcano has erupted, or is expected to erupt, or volcanic ash is reported, issue advisory information regarding the extent and forecast movement of the volcanic ash cloud.';

(12) the title of Chapter 5 is replaced by the following:

'***Chapter 5** – **Requirements for tropical cyclone advisory centres (TCACs)***';

(13) in point MET.OR.270, the introductory phrase and point (a) are replaced by the following:

'In its area of responsibility, the TCAC shall issue:

(a) advisory information concerning the position of the cyclone centre, changes in intensity at the time of observation, its direction and speed of movement, central pressure and maximum surface wind near the centre;';

(14) the title of Chapter 6 is replaced by the following:

'***Chapter 6 – Requirements for world area forecast centres (WAFCs)***';

(15) in point MET.OR.275, point (a) is replaced by the following:

'(a) The WAFC shall issue:

(1) gridded global forecasts of:

(i) upper wind;

(ii) upper-air temperature and humidity;

(iii) geopotential altitude of flight levels;

(iv) flight level and temperature of tropopause;

(v) direction, speed and flight level of maximum wind;

(vi) cumulonimbus clouds;

(vii) icing;

(viii) turbulence;

(2) global forecasts of significant weather (SIGWX) phenomena, including volcanic activity and release of radioactive materials.';

(16) point MET.TR.115 is replaced by the following:

'**MET.TR.115 Meteorological bulletins**

(a) Meteorological bulletins shall be disseminated using specified data types and code forms appropriate to the information being provided.

(b) Meteorological bulletins containing operational meteorological information shall be disseminated via communication systems appropriate to the information being provided and the users for which it is intended.';

(17) point MET.TR.200 is replaced by the following:

'**MET.TR.200 Meteorological reports and other information**

(a) Local routine report, local special report, METAR and SPECI shall contain the following elements in the order indicated:

(1) identification of the type of report;

(2) location indicator;

(3) time of the observation;

(4) identification of an automated or missing report, when applicable;

(5) surface wind direction and speed;

(6) visibility;

(7) runway visual range, when the reporting criteria are met;

(8) present weather;

(9) cloud amount, cloud type only for cumulonimbus and towering cumulus clouds and height of cloud base or, where measured, vertical visibility;

(10) air temperature and dew-point temperature;

(11) QNH and, when applicable, in local routine and local special report, QFE;

(12) supplementary information, when applicable.

(b) In local routine report and local special report:

(1) if the surface wind is observed from more than one location along the runway, the locations for which these values are representative shall be indicated;

(2) when there is more than one runway in use and the surface wind related to these runways is observed, the available wind values for each runway shall be given, and the runways to which the values refer shall be reported;

(3) when variations from the mean wind direction are reported in accordance with point MET.TR.205(a)(3)(ii)(B), the two extreme directions between which the surface wind has varied shall be reported;

(4) when variations from the mean wind speed (gusts) are reported in accordance with point MET.TR.205(a)(3)(iii), they shall be reported as the maximum and minimum values of the wind speed attained.

(c) METAR and SPECI

(1) METAR and SPECI shall be issued in accordance with the template shown in Appendix 1.

(2) METAR shall be filed for transmission not later than 5 minutes after the actual time of observation.

(d) Information on visibility, runway visual range, present weather and cloud amount, cloud type and height of cloud base shall be replaced in all meteorological reports by the term 'CAVOK' when the following conditions occur simultaneously at the time of observation:

(1) visibility, 10 km or more, and the lowest visibility is not reported;

(2) no cloud of operational significance;

(3) no weather of significance to aviation.

(e) The list of criteria to provide local special report shall include:

(1) those values which most closely correspond to the operating minima of the operators using the aerodrome;

(2) those values which satisfy other local requirements of the air traffic services (ATS) units and of the operators;

(3) an increase in air temperature of 2 °C or more from that given in the latest local report, or an alternative threshold value as agreed between the meteorological services providers, the appropriate ATS unit and the operators concerned;

(4) the available supplementary information concerning the occurrence of significant meteorological conditions in the approach and climb-out areas;

(5) when noise-abatement procedures are applied and the variation from the mean surface wind speed has changed by 5 kt or more from that at the time of the latest local report, the mean speed before and/or after the change being 15 kt or more;

(6) when the mean surface wind direction has changed by 60° or more from that given in the latest report, the mean speed before and/or after the change being 10 kt or more;

(7) when the mean surface wind speed has changed by 10 kt or more from that given in the latest local report;

(8) when the variation from the mean surface wind speed (gusts) has changed by 10 kt or more from that at the time of the latest local report, the mean speed before and/or after the change being 15 kt or more;

(9) when the onset, cessation or change in intensity of any of the following weather phenomena occurs:

(i) freezing precipitation;

(ii) moderate or heavy precipitation, including showers thereof; and

(iii) thunderstorm, with precipitation;

(10) when the onset or cessation of any of the following weather phenomena occurs:

(i) freezing fog;

(ii) thunderstorm, without precipitation;

(11) when the amount of a cloud layer below 1 500 ft (450 m) changes:

(i) from scattered (SCT) or less to broken (BKN) or overcast (OVC); or

(ii) from BKN or OVC to SCT or less.

(f) When so agreed between the meteorological services provider and the competent authority, local special reports and SPECI, when applicable shall be issued whenever the following changes occur:

(1) when the wind changes through values of operational significance; the threshold values shall be established by the meteorological services provider in consultation with the appropriate ATS unit and operators concerned, taking into account changes in the wind which would:

(i) require a change in runway(s) in use;

(ii) indicate that the runway tailwind and crosswind components have changed through values representing the main operating limits for typical aircraft operating at the aerodrome;

(2) when the visibility is improving and changes to or passes through one or more of the following values, or when the visibility is deteriorating and passes through one or more of the following values:

(i) 800, 1 500 or 3 000 m;

(ii) 5 000 m, in cases where a significant number of flights are operated in accordance with the visual flight rules;

(3) when the runway visual range is improving and changes to or passes through one or more of the following values, or when the runway visual range is deteriorating and passes through one or more of the following values: 50, 175, 300, 550 or 800 m;

(4) when the onset, cessation or change in intensity of any of the following weather phenomena occurs:

(i) dust storm;

(ii) sandstorm;

(iii) funnel cloud (tornado or waterspout);

(5) when the onset or cessation of any of the following weather phenomena occurs:

(i) low drifting dust, sand or snow;

(ii) blowing dust, sand or snow;

(iii) squall;

(6) when the height of base of the lowest cloud layer of BKN or OVC extent is lifting and changes to or passes through one or more of the following values, or when the height of base of the lowest cloud layer of BKN or OVC extent is lowering and passes through one or more of the following values:

(i) 100, 200, 500 or 1 000 ft;

(ii) 1 500 ft, in cases where significant numbers of flights are operated in accordance with the visual flight rules;

(7) when the sky is obscured and the vertical visibility is improving and changes to or passes through one or more of the following values, or when the vertical visibility is deteriorating and passes through one or more of the following values: 100, 200, 500 or 1 000 ft;

(8) any other criteria based on local aerodrome operating minima, as agreed between the meteorological services providers and the operators.';

(18) point MET.TR.205 is amended as follows:

(a) in point (a), point (1) is replaced by the following:

'(1) In local routine report, local special report, METAR and SPECI, the surface wind direction and speed shall be reported in steps of 10 degrees true and 1 kt respectively.';

(b) in point (a), point (3) is replaced by the following:

'(3) In local routine report, local special report, METAR and SPECI:

(i) the units of measurement used for the wind speed shall be indicated;

(ii) variations from the mean wind direction during the past 10 minutes shall be reported as follows, if the total variation is 60° or more, alternatively:

(A) when the total variation is 60° or more and less than 180° and the wind speed is 3 kt or more, such directional variations shall be reported as the two extreme directions between which the surface wind has varied;

(B) when the total variation is 60° or more and less than 180° and the wind speed is less than 3 kt, the wind direction shall be reported as variable with no mean wind direction;

(C) when the total variation is 180° or more, the wind direction shall be reported as variable with no mean wind direction;

(iii) variations from the mean wind speed (gusts), during the past 10 minutes shall be reported when the maximum wind speed exceeds the mean speed by, alternatively:

(A) 5 kt or more in local routine report and local special report when noise abatement procedures are applied;

(B) 10 kt or more otherwise;

(iv) when a wind speed of less than 1 kt is reported, it shall be indicated as calm;

(v) when a wind speed of 100 kt or more is reported, it shall be indicated to be more than 99 kt;

(vi) when variations from the mean wind speed (gusts) are reported in accordance with point MET.TR.205 (a), the maximum value of the wind speed attained shall be reported;

(vii) when the 10-minute period includes a marked discontinuity in the wind direction and/or speed, only variations from the mean wind direction and mean wind speed occurring since the discontinuity shall be reported.';

(c) in point (b), point (1) is replaced by the following:

'(1) In local routine report, local special report, METAR and SPECI, 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) in point (c), point (1) is replaced by the following:

'(1) In local routine report, local special report, METAR and SPECI, the RVR shall be:

(i) reported throughout periods when either the visibility or the runway visual range is less than 1 500 m;

(ii) 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), point (3) is replaced by the following:

'(3) In local routine report, local special report, METAR and SPECI:

(i) when the RVR is above the maximum value that can be determined by the system in use, it shall be reported using the abbreviation 'ABV' in local routine report and local special report, and the abbreviation 'P' in METAR and SPECI followed by the maximum value that can be determined by the system;

(ii) when the RVR is below the minimum value that can be determined by the system in use, it shall be reported using the abbreviation 'BLW' in local routine report and local special report, and the abbreviation 'M' in METAR and SPECI, followed by the minimum value that can be determined by the system.';

(f) in point (d), points (2), (3) and (4) are replaced by the following:

'(2) In METAR and SPECI, observed present weather phenomena shall be reported in terms of type and characteristics and qualified with respect to intensity or proximity to the aerodrome, as appropriate.

(3) In local routine report, local special report, METAR and SPECI, the following characteristics of present weather phenomena, as necessary, shall be reported using their respective abbreviations and relevant criteria, as appropriate:

(i) Thunderstorm (TS)

Used to report a thunderstorm with precipitation. When thunder is heard or lightning is detected at the aerodrome during the 10-minute period preceding the time of observation but no precipitation is observed at the aerodrome, the abbreviation 'TS' shall be used without qualification.

(ii) Freezing (FZ)

Supercooled water droplets or precipitation, used with types of present weather phenomena in accordance with Appendix 1.

(4) In local routine report, local special report, METAR and SPECI:

(i) one or more, up to a maximum of three, of the present weather abbreviations shall be used, as necessary, together with an indication, where appropriate, of the characteristics and intensity or proximity to the aerodrome, so as to convey a complete description of the present weather of significance to flight operations;

(ii) the indication of intensity or proximity, as appropriate, shall be reported first followed respectively by the characteristics and the type of weather phenomena;

(iii) where two different types of weather are observed, they shall be reported in two separate groups, where the intensity or proximity indicator refers to the weather phenomenon which follows the indicator. However, different types of precipitation occurring at the time of observation shall be reported as one single group with the dominant type of precipitation reported first and preceded by only one intensity qualifier which refers to the intensity of the total precipitation.';

(g) in point (e), point (1) is replaced by the following:

'(1) In local routine report, local special report, METAR and SPECI, the height of cloud base shall be reported in steps of 100 ft up to 10 000 ft and in steps of 1 000 ft above 10 000 ft.';

(h) in point (f), point (1) is replaced by the following:

'(1) In local routine report, local special report, METAR and SPECI, the air temperature and the dew-point temperature shall be reported in steps of whole degrees Celsius.';

(i) in point (f), point (3) is replaced by the following:

'(3) In local routine report, local special report, METAR and SPECI, a temperature below 0 °C shall be identified.';

(j) in point (g), point (1) is replaced by the following:

'(1) In local routine report, local special report, METAR and SPECI, the QNH and QFE shall be computed in tenths of hectopascals and reported therein in steps of whole hectopascals, using four digits.';

(k) in point (g), point (4) is replaced by the following:

'(4) In METAR and SPECI, only QNH values shall be included.';

(19) point MET.TR.210 is amended as follows:

(a) in point (a), point (2) is replaced by the following:

'(2) Display

Surface wind displays relating to each sensor shall be located in the aeronautical meteorological station. The displays in the aeronautical meteorological station and in the air traffic services units shall relate to the same sensors, and where separate sensors are required, the displays shall be clearly marked to identify the runway and section of runway monitored by each sensor.';

(b) in point (a)(3), point (ii) is replaced by the following:

'(ii) 10 minutes for METAR and SPECI, except that when the 10-minute period includes a marked discontinuity in the wind direction and/or speed; only data occurring after the discontinuity shall be used for obtaining mean values; hence, the time interval in these circumstances shall be correspondingly reduced.';

(c) in point (b), point (3) is replaced by the following:

'(3) Displays

When instrumented systems are used for the measurement of visibility, visibility displays relating to each sensor shall be located in the aeronautical meteorological station. The displays in the aeronautical meteorological station and in the air traffic services units shall relate to the same sensors, and where separate sensors are required, the displays shall be clearly marked to identify the area monitored by each sensor.';

(d) point (c) is replaced by the following:

'(c) Runway visual range (RVR)

(1) The RVR shall be reported in metres.

(2) Siting

The meteorological instrument used to assess the RVR shall be situated in such a way as to provide data which is representative of the area for which the observations are required.

(3) Instrumented systems

Instrumented systems based on transmissometers or forward-scatter meters shall be used to assess RVR on runways intended for Category II and III instrument approach and landing operations, and for Category I instrument approach and landing operations as determined by the competent authority.

(4) Display

Where the RVR is determined by instrumented systems, one display or more, if required, shall be located in the aeronautical meteorological station. The displays in the aeronautical meteorological station and in the ATS units shall relate to the same sensors, and where separate sensors are required, the displays shall be clearly marked to identify the runway and section of the runway monitored by each sensor.

(5) Averaging

(i) Where instrumented systems are used for the assessment of the RVR, their output shall be updated at least every 60 seconds to permit the provision of current, representative values.

(ii) The averaging period for RVR values shall be:

(A) 1 minute for local routine report and local special report and for RVR displays in ATS units;

(B) 10 minutes for METAR and SPECI, except that when the 10-minute period immediately preceding the observation includes a marked discontinuity in RVR values; then only those values occurring after the discontinuity shall be used for obtaining mean values.';

(e) in point (e), point (3) is replaced by the following:

'(3) Display

When automated equipment is used for the measurement of the height of cloud base, at least one display shall be located in the aeronautical meteorological station. The displays in the aeronautical meteorological station and in the air traffic services units shall relate to the same sensors, and where separate sensors are required, the displays shall be clearly marked to identify the area monitored by each sensor.';

(f) in point (f), point (2) is replaced by the following:

'(2) When automated equipment is used for the measurement of air temperature and dew-point temperature, the displays shall be located in the aeronautical meteorological station. The displays in the aeronautical meteorological station and in the air traffic services units shall relate to the same sensors.';

(g) in point (g)(2), point (i) is replaced by the following:

'(i) When automated equipment is used for the measurement of atmospheric pressure, QNH and, if required in accordance with point MET.TR.205(g)(3)(ii), QFE displays relating to the barometer shall be located in the aeronautical meteorological station with corresponding displays in the appropriate air traffic services units.';

(20) point MET.TR.215 is amended as follows:

(a) the title is replaced by the following:

'**Forecasts and other information**';

(b) in point (e), point (6) is replaced by the following:

'(6) volcanic ash, tropical cyclone and space weather advisory information relevant to the whole route.';

(21) point MET.TR.220 is amended as follows:

(a) points (b), (c) and (d) are replaced by the following:

'(b) TAF shall be issued in accordance with the template shown in Appendix 3.

(c) The period of validity of a routine TAF shall be either 9 or 24 or 30 hours, unless otherwise prescribed by the competent authority taking into account the traffic requirements for aerodromes which operate for less than 9 hours.

(d) TAF shall be filed for transmission not earlier than 1 hour before the commencement of their period of validity.';

(b) in point (e)(1), points (iii), (iv) and (v) are replaced by the following:

'(iii) When the wind is forecasted to be less than 1 kt, the forecasted wind speed shall be indicated as calm.

(iv) When the forecast maximum speed exceeds the forecasted mean wind speed by 10 kt or more, the forecasted maximum wind speed shall be indicated.

(v) When a wind speed of 100 kt or more is forecasted, it shall be indicated to be more than 99 kt.';

(22) in point MET.TR.225, point (c) is amended as follows:

(a) in point (1), points (i) and (ii) are replaced by the following:

'(i) a change in the mean wind direction of 60° or more, the mean speed before and/or after the change being 10 kt or more;

(ii) a change in mean wind speed of 10 kt or more;';

(b) point (2) is amended as follows:

(i) point (i) is replaced by the following:

'(i) When the visibility is expected to improve and change to or pass through one or more of the following values, or when the visibility is expected to deteriorate and pass through one or more of the following values: 150, 350, 600, 800, 1 500 or 3 000 m, the TREND forecast shall indicate the change.';

(ii) point (iii) is replaced by the following:

'(iii) In TREND forecasts appended to METAR and SPECI, visibility shall refer to the forecast prevailing visibility.';

(23) in point MET.TR.235, point (c) is replaced by the following:

'(c) Wind shear alerts shall give concise, up-to-date information related to the observed existence of wind shear involving a headwind/tailwind change of 15 kt or more which could adversely affect aircraft on the final approach path or initial take-off path and aircraft on the runway during the landing roll or take-off run.';

(24) point MET.TR.250 is amended as follows:

(a) point (a) is replaced by the following:

'(a) SIGMET shall be issued in accordance with the template shown in Appendix 5.';

(b) point (d) is replaced by the following:

'(d) Only one of the phenomena listed in Appendix 5 shall be included in a SIGMET, using the appropriate abbreviations and the following threshold value of surface wind speed of 34 kt or more for tropical cyclones.';

(c) point (f) is deleted;

(25) point MET.TR.255 is amended as follows:

(a) point (a) is replaced by the following:

'(a) AIRMET shall be issued in accordance with the template shown in Appendix 5.';

(b) point (c) is replaced by the following:

'(c) Only one of the phenomena in Appendix 5 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 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 above ground level';

(c) point (e) is deleted;

(26) point MET.TR.260 is amended as follows:

(a) point (b)(1) is replaced by the following:

'(1) the following phenomena warranting the issuance of a SIGMET: severe icing, severe turbulence, cumulonimbus clouds and thunderstorms that are obscured, frequent, embedded or occurring at a squall line, sandstorms/dust storms and volcanic eruptions or a release of radioactive materials into the atmosphere, and which are expected to affect low-level flights';

(b) point (c) is replaced by the following:

'(c) When the competent authority has determined that the density of traffic operating below flight level 100, or up to flight level 150 in mountainous areas, or higher, where necessary, warrants the issuance of an AIRMET in combination with area forecasts for low-level flights, the area forecasts shall be issued to cover the layer between the ground and flight level 100, or up to flight level 150 in mountainous areas, or higher, where necessary, and shall contain information on en-route weather phenomena hazardous to low-level flights.';

(27) the title of Chapter 4 is replaced by the following:

'***Chapter 4** – **Technical requirements for volcanic ash advisory centres (VAACs)***';

(28) point MET.TR.265 is replaced by the following:

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

The advisory information on volcanic ash shall be issued 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.';

(29) point MET.TR.270 is replaced by the following:

'**MET.TR.270 Tropical cyclone advisory centre responsibilities**

The advisory information on tropical cyclones shall be issued in accordance with the template shown in Appendix 7 for tropical cyclones when the maximum of the 10-minute mean surface wind speed is expected to reach or exceed 34 kt during the period covered by the advisory.'

(30) the title of Chapter 5 is replaced by the following:

'***Chapter 5 – Technical requirements for tropical cyclone advisory centres (TCACs)***';

(31) point MET.TR.275 is amended as follows:

(a) point (a) is replaced by the following:

'(a) WAFCs shall use processed meteorological data in the form of grid point values for the supply of gridded global forecasts and forecasts of significant weather phenomena.';

(b) point (b) is amended as follows:

(i) in point (1), point (viii) is replaced by the following:

'(viii) turbulence;';

(ii) point (2) is replaced by the following:

'(2) issue forecasts referred to in point (1) and complete their dissemination as soon as technically feasible, but not later than 5 hours after standard time of observation;';

(iii) point (3) is replaced by the following:

'(3) provide grid point forecasts in a regular grid comprising:

(i) 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) with a horizontal resolution of 1,25° of latitude and longitude;

(ii) 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) with a horizontal resolution of 1,25° of latitude and longitude;

(iii) humidity data for flight levels 50 (850 hPa), 80 (750 hPa), 100 (700 hPa), 140 (600 hPa) and 180 (500 hPa) with a horizontal resolution of 1,25° of latitude and longitude;

(iv) 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) with a horizontal resolution of 1,25° of latitude and longitude;

(v) direction, speed and flight level of maximum wind with a horizontal resolution of 1,25° of latitude and longitude;

(vi) flight level and temperature of tropopause with a horizontal resolution of 1,25° of latitude and longitude;

(vii) icing for layers centred at flight levels 60 (800 hPa), 100 (700 hPa), 140 (600 hPa), 180 (500 hPa), 240 (400 hPa) and 300 (300 hPa) with a horizontal resolution of 0,25° of latitude and longitude;

(viii) turbulence for layers centred at flight levels 100 (700 hPa), 140 (600 hPa), 180 (500 hPa), 240 (400 hPa), 270 (350 hPa), 300 (300 hPa), 340 (250 hPa), 390 (200 hPa) and 450 (150 hPa) with a horizontal resolution of 0,25° of latitude and longitude;

(ix) horizontal extent and flight levels of base and top of cumulonimbus clouds with a horizontal resolution of 0,25° of latitude and longitude.';

(c) point (c) is amended as follows:

(i) point (1) is replaced by following:

'(1) prepare SIGWX forecasts four times a day and shall be valid for fixed valid times at 24 hours after the time (00.00, 06.00, 12.00 and 18.00 UTC) of the synoptic data on which the forecasts were based. The dissemination of each forecast shall be completed as soon as technically feasible, but not later than 7 hours after standard time of observation under normal operations and not later than 9 hours after standard time of observation during backup operations;';

(ii) in point (3), point (i) is replaced by the following:

'(i) tropical cyclone provided that the maximum of the 10-minute mean surface wind speed is expected to reach or exceed 34 kt;';

(d) point (d) is replaced by the following:

'(d) Medium-level SIGWX forecasts for flight levels between 100 and 450 for limited geographical areas shall be issued.';

(32) Appendix 1 is replaced by the following:

'Appendix 1

Template for METAR and SPECI

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 and SPECI 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).*

Note 3: Row numbers in the 'Ref.' column are included only for clarity and ease of reference, and are not part of the METAR and SPECI.

Ref.	Element	Detailed content	Template(s)	
1	Identification of the type of report (M)	Type of report (M)	METAR, METAR COR, SPECI or SPECI COR	
2	Location indicator (M)	ICAO location indicator (M)	nnnn	
3	Time of the observation (M)	Day and actual time of the observation in UTC (M)	nnnnnnZ	
4	Identification of an automated or missing report (C)	Automated or missing report identifier (C)	AUTO *or* NIL	
5	END OF METAR IF THE REPORT IS MISSING.			
6	Surface wind (M)	Wind direction (M)	nnn *or*/// [1]	VRB
		Wind speed (M)	[P]nn[n] *or*// [1]	
		Significant speed variations (C)	G[P]nn[n]	

		Units of measurement (M)	KT			
		Significant directional variations (C)	nnnVnnn	—		
7	Visibility (M)	Prevailing or minimum visibility (M)	nnnn *or*//// (1)			C A V O K
		Minimum visibility and direction of the minimum visibility (C)	nnnn[N] *or* nnnn[NE] *or* nnnn[E] *or* nnnn [SE] *or* nnnn[S] *or* nnnn[SW] *or* nnnn[W] *or* nnnn[NW]			
8	Runway visual range (C) (2)	Name of the element (M)	R			
		Runway (M)	nn[L]/*or* nn[C]/*or* nn[R]/			
		Runway visual range (M)	[P or M]nnnn *or*//// (1)			
		Runway visual range past tendency (C)	U, D or N			
9	Present weather (C)	Intensity or proximity of present weather (C)	– *or* +	—	VC	
		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 (4) *or* FC (3) *or* SHGR *or* SHGS *or* SHRA *or* SHSN *or* SHUP (4) *or* TSGR *or* TSGS *or* TSRA *or* TSSN *or* TSUP (4) *or* UP (4)	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 // (1)	FG *or* PO *or* FC *or* DS *or* SS *or* TS *or* SH *or* BLSN *or* BLSA *or* BLDU *or* VA	
10	Cloud (M)	Cloud amount and height of cloud base or vertical visibility (M)	FEWnnn *or* SCTnnn *or* BKNnnn *or* OVCnnn *or* FEW/// (1) *or* SCT/// (1) *or* BKN/// (1) *or* OVC/// (1) *or* ///nnn (1) *or* ////// (1)	VVnnn *or* VV/// (1)	NSC *or* NCD (4)	
		Cloud type (C)	CB *or* TCU *or*/// (1), (5)	—		

11	Air and dew-point temperature (M)	Air and dew-point temperature (M)	[M]nn/[M]nn *or*///[M]nn (1) *or* [M]nn/// (1) *or*///// (1)				
12	Pressure values (M)	Name of the element (M)	Q				
		QNH (M)	nnnn *or*//// (1)				
13	Supplementary information (C)	Recent weather (C)	RERASN *or* REFZDZ *or* REFZRA *or* REDZ *or* RE[SH]RA *or* RE[SH]SN *or* RESG *or* RESHGR *or* RESHGS *or* REBLSN *or* RESS *or* REDS *or* RETSRA *or* RETSSN *or* RETSGR *or* RETSGS *or* RETS *or* REFC *or* REVA *or* REPL *or* REUP (4) *or* REFZUP (4)*or* RETSUP (4) *or* RESHUP (4) *or* RE// (1)				
		Wind shear (C)	WS Rnn[L] *or* WS Rnn[C] *or* WS Rnn[R] *or* WS ALL RWY				
		Sea-surface temperature and state of the sea or significant wave height (C)	W[M]nn/Sn *or* W///Sn (1) *or* W[M]nn/S/ (1)*or* W[M]nn/Hn[n][n] *or* W///Hn[n][n] (1) *or* W[M]nn/H/// (1)				
14	Trend forecast (O)	Change indicator (M)	NOSIG	BECMG or TEMPO			
		Period of change (C)		FMnnnn and/*or* TLnnnn *or* ATnnnn			
		Wind (C)		nnn[P]nn[G[P]nn]KT			
		Prevailing visibility (C)		nnnn			C A V O K
		Weather phenomenon: intensity (C)		– or +	—	N S W	
		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 cloud base or vertical visibility (C)		FEWnnn *or* SCTnnn *or* BKNnnn *or* OVCnnn	VVnnn *or* VV///	N S C	
		Cloud type (C)		CB *or* TCU	—		

(1) When a meteorological element is temporarily missing, or its value is considered temporarily as incorrect, it is replaced by a solidus ('/') for each digit of the abbreviation of the text message and indicated as missing to ensure reliable translation into other code forms.
(2) To be included if the visibility or the runway visual range is < 1 500 m for up to a maximum of four runways.
(3) 'Heavy' is used to indicate 'tornado' or 'waterspout'; 'moderate' (no qualifier) to indicate 'funnel cloud not reaching the ground'.
(4) For automated reports only.
(5) In the case of automated reports, solidi ('///') may replace the relevant cloud type, as appropriate, dependent on the capability of the automatic observing system. Furthermore, solidi may replace cloud amount and/or cloud height of reported CB or TCU layer.

Ranges and resolutions for the numerical elements included in METAR and SPECI

Ref.	Elements		Range	Resolution
1	Runway:	(no units)	01–36	1
2	Wind direction:	°true	000–360	10
3	Wind speed:	KT	00–99 P99	1 N/A (100 or greater)
4	Visibility:	M	0000–0750	50
		M	0800–4 900	100
		M	5 000–9 000	1 000
		M	10 000 or greater	0 (fixed value: 9 999)
5	Runway visual range:	M	0000–0375	25
		M	0400–0750	50
		M	0800–2 000	100
6	Vertical visibility:	100's FT	000–020	1
7	Clouds: height of cloud base:	100's FT	000–099 100-200	1 10
8	Air temperature: Dew-point temperature:	°C	–80 – +60	1
9	QNH:	hPa	0850–1 100	1
10	Sea-surface temperature:	°C	–10 – +40	1
11	State of the sea:	(no units)	0–9	1
12	Significant wave height:	M	0–999	0,1'

(33) Appendix 3 is replaced by the following:

'Appendix 3

Template for TAF

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 TAF are provided in a separate table below this template.

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

Note 3: Row numbers in the 'Ref.' column are included only for clarity and ease of reference, and are not part of the TAF.

Ref.	Element	Detailed content	Template(s)		
1	Identification of the type of forecast (M)	Type of forecast (M)	TAF or TAF AMD or TAF COR		
2	Location indicator (M)	ICAO location indicator (M)	nnnn		
3	Time of issue of the forecast (M)	Day and time of issue of the forecast in UTC (M)	nnnnnnZ		
4	Identification of a missing forecast (C)	Missing forecast identifier (C)	NIL		
5	END OF TAF IF THE FORECAST IS MISSING.				
6	Days and period of validity of the forecast (M)	Days and period of validity of the forecast in UTC (M)	nnnn/nnnn		
7	Identification of a cancelled forecast (C)	Cancelled forecast identifier (C)	CNL		
8	END OF TAF IF THE FORECAST IS CANCELLED.				
9	Surface wind (M)	Wind direction (M)	nnn *or* VRB		
		Wind speed (M)	[P]nn[n]		
		Significant speed variations (C)	G[P]nn[n]		
		Units of measurement (M)	KT		
10	Visibility (M)	Prevailing visibility (M)	nnnn		C A V O K
11	Weather (C)	Intensity of weather phenomena (C) [1]	– *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	
12	Cloud (M) ([2])	Cloud amount and height of base or vertical visibility (M)	FEWnnn *or* SCTnnn *or* BKNnnn *or* OVCnnn	VVnnn *or* VV///	N S C	
		Cloud type (C)	CB *or* TCU	—		
13	Temperature (O) ([3])	Name of the element (M)	TX			
		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			
14	Expected significant changes to one or more of the above elements during the period of validity (C)	Change or probability indicator (M)	PROB30 [TEMPO] *or* PROB40 [TEMPO] *or* BECMG *or* TEMPO *or* FM			
		Period of occurrence or change (M)	nnnn/nnnn or nnnnnn			
		Wind (C)	nnn[P]nn[G[P]nn]KT or VRBnnKT			

		Prevailing visibility (C)	nnnn			C A V O K
		Weather phenomenon: intensity (C)	*– or +*	—	N S W	
		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		
15		Cloud amount and height of base or vertical visibility (C)	FEWnnn *or* SCTnnn *or* BKNnnn *or* OVCnnn	VVnnn *or* VV///	N S C	
		Cloud type (C)	CB *or* TCU	—		

(1) To be included whenever applicable. No qualifier for moderate intensity.
(2) Up to four cloud layers.
(3) Consisting of up to a maximum of four temperatures (two maximum temperatures and two minimum temperatures).

Ranges and resolutions for the numerical elements included in TAF

Ref.	Elements		Range	Resolution
1	Wind direction:	° true	000–360	10
2	Wind speed:	KT	00–99	1
3	Visibility:	M	0000–0750	50
		M	0800–4 900	100
		M	5 000–9 000	1 000
		M	10 000 or greater	0 (fixed value: 9 999)
4	Vertical visibility:	100's FT	000–020	1

5	Cloud: height of cloud base:	100's FT	000–099 100–200	1 10
6	Air temperature (maximum and minimum):	°C	–80 – +60	1'

(34) Appendix 4 is replaced by the following:

'*Appendix 4*

Template for wind shear warnings

Key:

M = inclusion mandatory;

C = inclusion conditional, whenever applicable.

Note 1: The ranges and resolutions for the numerical elements included in wind shear warnings are shown in Appendix 8.

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

Note 3: Row numbers in the 'Ref.' column are included only for clarity and ease of reference, and are not part of the wind shear warning.

Ref.	Element	Detailed content	Template(s)
1	Location indicator of the aerodrome (M)	Location indicator of the aerodrome	nnnn
2	Identification of the type of message (M)	Type of message and sequence number	WS WRNG [n]n
3	Time of origin and validity period (M)	Day and time of issue and, where applicable, validity period in UTC	nnnnnn [VALID TL nnnnnn] *or* [VALID nnnnnn/nnnnnn]
4	IF THE WIND SHEAR WARNING IS TO BE CANCELLED, SEE DETAILS AT THE END OF THE TEMPLATE.		
5	Phenomenon (M)	Identification of the phenomenon and its location	[MOD] *or* [SEV] WS IN APCH *or* [MOD] *or* [SEV] WS [APCH] RWYnnn *or* [MOD] *or* [SEV] WS IN CLIMB-OUT *or* [MOD] *or* [SEV] WS CLIMB-OUT RWYnnn *or* MBST IN APCH *or* MBST [APCH] RWYnnn *or* MBST IN CLIMB-OUT *or* MBST CLIMB-OUT RWYnnn
6	Observed, reported or forecast phenomenon (M)	Identification whether the phenomenon is observed or reported and expected to continue, or forecast	REP AT nnnn nnnnnnnn *or* OBS [AT nnnn] *or* FCST
7	Details of the phenomenon (C)	Description of the phenomenon causing the issuance of the wind shear warning	SFC WIND: nnn/nnKT nnnFT – WIND: nnn/nnKT *or* nnKT LOSS nnNM (*or* nnKM) FNA RWYnn *or* nnKT GAIN nnNM (*or* nnKM) FNA RWYnn

	OR		
8	Cancellation of wind shear warning	Cancellation of wind shear warning referring to its identification	CNL WS WRNG [n]n nnnnnn/nnnnnn'

(35) Appendix 5A is replaced by the following:

'Appendix 5

Template for SIGMET and AIRMET

Key:

M = inclusion mandatory;

C = inclusion conditional, whenever applicable; and

Note 1: The ranges and resolutions for the numerical elements included in SIGMET or AIRMET are shown in Appendix 8.

Note 2: Severe or moderate icing (SEV ICE, MOD ICE) and severe or moderate turbulence (SEV TURB, MOD TURB) associated with thunderstorms, cumulonimbus clouds or tropical cyclones should not be included.

Note 3: Row numbers in the 'Ref.' column are included only for clarity and ease of reference, and are not part of the SIGMET or AIRMET.

Ref.	Element	Detailed content	SIGMET template	AIRMET template
1	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	
2	Identification (M)	SIGMET or AIRMET identification and sequence number	SIGMET nnn	AIRMET [n][n]n
3	Validity period (M)	Day-time groups indicating the period of validity in UTC	VALID nnnnnn/nnnnnn	
4	Location indicator of MWO (M)	Location indicator of MWO originating the SIGMET or AIRMET with a separating hyphen	nnnn–	
5	New line			
6	Name of the FIR/CTA (M)	Location indicator and name of the FIR/CTA for which the SIGMET/AIRMET is issued	nnnn nnnnnnnnnn FIR or UIR or FIR/UIR or nnnn nnnnnnnnnn CTA	nnnn nnnnnnnnnn FIR[/n]

Ref.	Element	Detailed content	SIGMET template	AIRMET template
7	IF THE SIGMET OR AIRMET IS TO BE CANCELLED, SEE DETAILS AT THE END OF THE TEMPLATE.			
8	Status indicator (C) ([1])	Indicator of test or exercise	TEST or EXER	TEST or EXER
9	New line			
10	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 ([2]) 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]KT SFC VIS [n][n]nnM (nn) ISOL TS[GR] OCNL TS[GR] MT OBSC BKN CLD BKN CLD [n]nnn/[ABV][n] nnnnFT *or* BKN CLD SFC/[ABV][n] nnnnFT *or* OVC CLD [n]nnn/[ABV][n] nnnnFT or OVC CLD SFC/[ABV][n] nnnnFT ISOL CB OCNL CB FRQ CB ISOL TCU OCNL TCU FRQ TCU MOD TURB MOD ICE MOD MTW
11	Observed or forecast phenomenon (M) ([3]), ([4])	Indication whether the information is observed and expected to continue, or forecast	OBS [AT nnnnZ] *or* FCST [AT nnnnZ]	
12	Location (C) ([3]), ([4]), ([5])	Location (referring to latitude and longitude (in degrees and minutes))	Nnn[nn] Wnnn[nn] *or* Nnn[nn] Ennn[nn] *or* Snn[nn] Wnnn[nn] *or* Snn[nn] Ennn[nn] *or* N OF Nnn[nn] *or* S OF Nnn[nn] *or* N OF Snn[nn] *or* S OF Snn[nn] *or* [AND] W OF Wnnn[nn] *or* E OF Wnnn[nn] *or* W OF Ennn[nn] *or* E OF Ennn[nn] *or* N OF Nnn[nn] *or* N OF Snn[nn] AND S OF Nnn[nn] *or* S OF Snn [nn] *or* W OF Wnnn[nn] *or* W OF Ennn[nn] AND E OF Wnnn[nn] *or* E OF Ennn[nn]	

Ref.	Element	Detailed content	SIGMET template	AIRMET template
			or N OF LINE *or* NE OF LINE *or* E OF LINE *or* SE OF LINE *or* S OF LINE *or* SW OF LINE *or* W OF LINE *or* NW OF LINE 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]] [AND N OF LINE *or* NE OF LINE *or* E OF LINE *or* SE OF LINE *or* S OF LINE *or* SW OF LINE *or* W OF LINE *or* NW OF LINE 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* WI 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]] ([6]) *or* ENTIRE UIR *or* ENTIRE FIR *or* ENTIRE FIR/UIR *or* ENTIRE CTA *or* WI nnnKM (*or* nnnNM) OF TC CENTRE ([7]) *or* WI nnKM (*or* nnNM) OF Nnn[nn] *or* Snn[nn] Wnnn[nn] *or* Ennn[nn] ([8])	
13	Level (C)	Flight level or altitude	[SFC/]FLnnn *or* [SFC/][n]nnnnFT (*or* [SFC/]nnnnM) FLnnn/nnn *or* TOP FLnnn *or* [TOP] ABV FLnnn *or* (*or* [TOP] ABV [n]nnnnFT) [[n]nnnn/][n]nnnnFT) *or* [n]nnnnFT/]FLnnn *or* TOP [ABV *or* BLW] FLnnn ([7])	
14	Movement or expected movement (C) ([3]), ([9]), ([10])	Movement or expected movement (direction and speed) with reference to one of the 16 points of compass, or stationary	MOV N [nnKMH] *or* MOV NNE [nnKMH] *or* MOV NE [nnKMH] *or* MOV ENE [nnKMH] *or* MOV E [nnKMH] *or* MOV ESE [nnKMH] *or* MOV SE [nnKMH] *or* MOV SSE [nnKMH] *or* MOV S [nnKMH] or MOV SSW [nnKMH] *or* MOV SW [nnKMH] *or* MOV WSW [nnKMH] *or* MOV W [nnKMH] *or* MOV WNW [nnKMH] *or* MOV NW [nnKMH] *or* MOV NNW [nnKMH] (or MOV N [nnKT] *or* MOV NNE [nnKT] *or* MOV NE [nnKT] *or* MOV ENE [nnKT] *or* MOV E [nnKT] *or* MOV ESE [nnKT] *or* MOV SE [nnKT] *or* MOV SSE [nnKT] *or* MOV S [nnKT] *or* MOV SSW [nnKT] *or* MOV SW [nnKT] *or* MOV WSW [nnKT] *or* MOV W [nnKT] *or* MOV WNW [nnKT] *or* MOV NW [nnKT] *or* MOV NNW [nnKT]) *or* STNR	

Ref.	Element	Detailed content	SIGMET template	AIRMET template
15	Changes in intensity (C) ([3])	Expected changes in intensity	INTSF *or* WKN *or* NC	
16	Forecast time (C) ([3]), ([4]), ([9])	Indication of the forecast time of the phenomenon	FCST AT nnnnZ	—
17	TC forecast position (C) ([7])	Forecast position of the TC centre	TC CENTRE PSN Nnn[nn] *or* Snn [nn] Wnnn[nn] *or* Ennn[nn] *or* TC CENTRE PSN Nnn[nn] *or* Snn [nn] Wnnn[nn] *or* Ennn[nn] CB ([11])	—
18	Forecast position (C) ([3]), ([4]), ([5]), ([9])	Forecast position of the phenomenon at the end of the validity period of the SIGMET ([12])	Nnn[nn] Wnnn[nn] *or* Nnn[nn] Ennn[nn] *or* Snn[nn] Wnnn[nn] *or* Snn[nn] Ennn[nn] *or* N OF Nnn[nn] *or* S OF Nnn[nn] *or* N OF Snn[nn] *or* S OF Snn[nn] [AND] W OF Wnnn[nn] *or* E OF Wnnn[nn] *or* W OF Ennn[nn] *or* E OF Ennn[nn] *or* N OF Nnn[nn] *or* N OF Snn[nn] AND S OF Nnn[nn] *or* S OF Snn [nn] or W OF Wnnn[nn] or W OF Ennn [nn] AND E OF Wnnn[nn] or E OF Ennn[nn] *or* N OF LINE *or* NE OF LINE *or* E OF LINE *or* SE OF LINE or S OF LINE *or* SW OF LINE *or* W OF LINE *or* NW OF LINE 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]] [AND N OF LINE *or* NE OF LINE *or* E OF LINE *or* SE OF LINE *or* S OF LINE *or* SW OF LINE *or* W OF LINE *or* NW OF LINE 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*	—

Ref.	Element	Detailed content	SIGMET template	AIRMET template
			WI 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] ([6]) *or* ENTIRE FIR *or* ENTIRE UIR *or* ENTIRE FIR/UIR *or* ENTIRE CTA *or* NO VA EXP ([13]) *or* WI nnKM (*or* nnNM) OF Nnn[nn] *or* Snn[nn] Wnnn[nn] *or* Ennn [nn] ([8]) *or* WI nnnKM (nnnNM) OF TC CENTRE ([7])	
19	Repetition of elements (C) ([14])	Repetition of elements included in a SIGMET for volcanic ash cloud or tropical cyclone	[AND] ([14])	—
20	New line if repeating elements			
	OR			
21	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] ([13])	CNL AIRMET [n][n]n nnnnnn/nnnnnn

([1]) Used only when SIGMET/AIRMET is issued to indicate that a test or an exercise is taking place. When the word 'TEST' or the abbreviation 'EXER' is included, the message may contain information that should not be used operationally or will otherwise end immediately after the word 'TEST'.
([2]) Used for unnamed tropical cyclones.
([3]) In the case of volcanic ash cloud covering more than one area within the FIR, these elements can be repeated, as necessary. Each location and forecast position are to be preceded by an observed or forecast time.
([4]) In the case of cumulonimbus clouds associated with a tropical cyclone covering more than one area within the FIR, these elements can be repeated as necessary. Each location and forecast position must be preceded by an observed or forecast time.
([5]) For SIGMET for radioactive cloud, only within (WI) is to be used for the elements 'location' and 'forecast position'.
([6]) The number of coordinates are to be kept to a minimum and should not normally exceed seven.
([7]) Only for SIGMET for tropical cyclones.

([8]) Only for SIGMET for radioactive cloud. A radius of up to 30 kilometres (or 16 nautical miles) from the source and a vertical extent from surface (SFC) to the upper limit of the flight information region/upper flight information region (FIR/UIR) or control area (CTA) is to be applied.
([9]) The elements 'forecast time' and 'forecast position' are not to be used in conjunction with the element 'movement or expected movement'.
([10]) For SIGMET for radioactive cloud, only stationary (STNR) is to be used for the element 'movement or expected movement'.
([11]) The term 'CB' is to be used when the forecast position for the cumulonimbus cloud is included.
([12]) The forecast position for cumulonimbus (CB) cloud occurring in connection with tropical cyclones relates to the forecast time of the tropical cyclone centre position, not to the end of the validity period of the SIGMET.
([13]) Only for SIGMET for volcanic ash.
([14]) To be used for more than one volcanic ash clouds or cumulonimbus clouds associated with a tropical cyclone simultaneously affecting the FIR concerned.'

(36) Appendix 5B is deleted;

(37) Appendix 6 is replaced by the following:

'Appendix 6

Template for advisory for volcanic ash

Key:

M = inclusion mandatory;

O = inclusion optional;

C = inclusion conditional, included whenever applicable.

Note 1: The ranges and resolutions for the numerical elements included in volcanic ash advisory are shown in Appendix 8.

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

Note 3: The inclusion of a colon (':') after each element heading is mandatory.

Note 4: Row numbers in the 'Ref.' column are included only for clarity and ease of reference, and are not part of the advisory for volcanic ash.

Ref.	Element	Detailed content	Template(s)
1	Identification of the type of message (M)	Type of message	VA ADVISORY
2	New line		
3	Status indicator (C) ([1])	Indicator of test or exercise	STATUS: TEST or EXER
4	New line		
5	Time of origin (M)	Year, month, day, time in UTC	DTG: nnnnnnnn/nnnnZ
6	New line		
7	Name of VAAC (M)	Name of VAAC	VAAC: nnnnnnnnnnn

Ref.	Element	Detailed content	Template(s)	
8	New line			
9	Name of volcano (M)	Name and *International Association of Volcanology and Chemistry of the Earth's Interior number of volcano*	VOLCANO:	nnnnnnnnnnnnnnnnnnnnn [nnnnnn] *or* UNKNOWN *or* UNNAMED
10	New line			
11	Location of volcano (M)	Location of volcano in degrees and minutes	PSN:	Nnnnn *or* Snnnn Wnnnnn *or* Ennnnn *or* UNKNOWN
12	New line			
13	State *or* region (M)	State, or region if ash is not reported over a State	AREA:	nnnnnnnnnnnnnnn *or* UNKNOWN
14	New line			
15	Summit elevation (M)	Summit elevation in m (or ft)	SUMMIT ELEV:	nnnnM (*or* nnnnnFT) *or* SFC *or* UNKNOWN
16	New line			
17	Advisory number (M)	Advisory number: year in full and message number (separate sequence for each volcano)	ADVISORY NR:	nnnn/nnnn
18	New line			
19	Information source (M)	Information source using free text	INFO SOURCE:	Free text up to 32 characters
20	New line			
21	Colour code (O)	Aviation colour code	AVIATION COLOUR CODE:	RED *or* ORANGE *or* YELLOW *or* GREEN *or* UNKNOWN *or* NOT GIVEN *or* NIL
22	New line			
23	Eruption details (M) [2]	Eruption details (including date/time of eruption(s))	ERUPTION DETAILS:	Free text up to 64 characters *or* UNKNOWN
24	New line			
25	Time of observation (*or* estimation) of volcanic ash clouds (M)	Day and time (in UTC) of observation (*or* estimation) of volcanic ash clouds	OBS (*or* EST) VA DTG:	nn/nnnnZ
26	New line			

Ref.	Element	Detailed content	Template(s)	
27	Observed or estimated volcanic ash clouds (M)	Horizontal (in degrees and minutes) and vertical extent at the time of observation of the observed or estimated volcanic ash clouds or, if the base is unknown, the top of the observed or estimated volcanic ash clouds; Movement of the observed or estimated volcanic ash clouds	OBS VA CLD *or* EST VA CLD:	TOP FLnnn *or* SFC/FLnnn *or* FLnnn/nnn [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]] MOV N nnKMH (*or* KT) *or* MOV NE nnKMH (*or* KT) *or* MOV E nnKMH (*or* KT) *or* MOV SE nnKMH (*or* KT) *or* MOV S nnKMH (*or* KT) *or* MOV SW nnKMH (*or* KT) *or* MOV W nnKMH (*or* KT) *or* MOV NW nnKMH (*or* KT) *or* VA NOT IDENTIFIABLE FM SATELLITE DATA WIND FLnnn/nnn nnn/nn[n]KT [3] *or* WIND FLnnn/nnn VRBnnKT *or* WIND SFC/FLnnn nnn/nn[n]KT *or* WIND SFC/FLnnn VRBnnKT
28	New line			
29	Forecast height and position of the volcanic ash clouds (+ 6 HR) (M)	Day and time (in UTC) (6 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 CLD +6 HR:	nn/nnnnZ SFC *or* FLnnn/[FL]nnn [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]] [4], [5] *or* NO VA EXP *or* NOT AVBL *or* NOT PROVIDED
30	New line			
31	Forecast height and position of the volcanic ash clouds (+ 12 HR) (M)	Day and time (in UTC) (12 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 CLD +12 HR:	nn/nnnnZ SFC *or* FLnnn/[FL]nnn [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]] [4], [5] *or* NO VA EXP *or* NOT AVBL *or* NOT PROVIDED
32	New line			

Ref.	Element	Detailed content	Template(s)	
33	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 CLD +18 HR:	nn/nnnnZ SFC *or* FLnnn/[FL]nnn [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] ([4]), ([5]) *or* NO VA EXP *or* NOT AVBL *or* NOT PROVIDED
34	New line			
35	Remarks (M) ([2])	Remarks, as necessary	RMK:	Free text up to 256 characters or NIL
36	New line			
37	Next advisory (M)	Year, month, day and time in UTC	NXT ADVISORY:	nnnnnnnn/nnnnZ *or* NO LATER THAN nnnnnnnn/nnnnZ *or* NO FURTHER ADVISORIES *or* WILL BE ISSUED BY nnnnnnnn/nnnnZ

([1]) Used only when the message is issued to indicate that a test or an exercise is taking place. When the word 'TEST' or the abbreviation 'EXER' is included, the message may contain information that should not be used operationally or will otherwise end immediately after the word 'TEST'.
([2]) The term 'resuspended' to be used for volcanic ash deposits raised by the wind.
([3]) If a volcanic ash cloud is reported (e.g. AIREP) but not identifiable from the satellite data.
([4]) A straight line between two points drawn on a map in the Mercator projection or a straight line between two points which crosses lines of longitude at a constant angle.
([5]) Up to four selected layers.'

(38) Appendix 7 is replaced by the following:

'Appendix 7

Template for advisory for tropical cyclones

Key:

M = inclusion mandatory;

C = inclusion conditional, included whenever applicable;

O = inclusion optional;

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

Note 1: The ranges and resolutions for the numerical elements included in tropical cyclone advisory are shown in Appendix 8.

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

Note 3: The inclusion of a colon (':') after each element heading is mandatory.

Note 4: Row numbers in the 'Ref.' column are included only for clarity and ease of reference, and are not part of the advisory for tropical cyclones.

Ref.	Element	Detailed content	Template(s)	
1	Identification of the type of message (M)	Type of message	TC ADVISORY	
2	New line			
3	Status indicator (C) ([1])	Indicator of test *or* exercise	STATUS:	TEST *or* EXER
4	New line			
5	Time of origin (M)	Year, month, day and time of issue in UTC	DTG:	nnnnnnnn/nnnnZ
6	New line			
7	Name of TCAC (M)	Name of TCAC (location indicator *or* full name)	TCAC:	nnnn *or* nnnnnnnnnn
8	New line			
9	Name of tropical cyclone (M)	Name of tropical cyclone *or* 'NN' for unnamed tropical cyclone	TC:	nnnnnnnnnnnn *or* NN
10	New line			
11	Advisory number (M)	Advisory: Year in full and message number (separate sequence for each tropical cyclone)	ADVISORY NR:	nnnn/[n][n][n]n
12	New line			
13	Observed position of the centre (M)	Day and time (in UTC) and position of the centre of the tropical cyclone (in degrees and minutes)	OBS PSN:	nn/nnnnZ Nnn[nn] *or* Snn[nn] Wnnn[nn] *or* Ennn[nn]
14	New line			
15	Observed CB cloud (O) ([2])	Location of CB cloud (referring to the latitude and longitude (in degrees and minutes)) and vertical extent (flight level)	CB:	WI nnnKM (*or* nnnNM) OF TC CENTRE *or* WI ([3]) 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]] TOP [ABV or BLW] FLnnn NIL

Ref.	Element	Detailed content	Template(s)	
16	New line			
17	Direction and speed of movement (M)	Direction and speed of movement given in 16 compass points and km/h (or kt) respectively 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* STNR
18	New line			
19	Changes in intensity (M)	Changes of maximum surface wind speed at time of observation	INTST CHANGE:	INTSF *or* WKN *or* NC
20	New line			
21	Central pressure (M)	Central pressure (in hPa)	C:	nnnHPA
22	New line			
23	Maximum surface wind (M)	Maximum surface wind near the centre (mean surface wind over 10 minutes, in kt)	MAX WIND:	nn[n]KT
24	New line			
25	Forecast of centre position (+ 6 HR) (M)	Day and time (in UTC) (6 hours from the DTG given in Item 5); Forecast position (in degrees and minutes) of the centre of the tropical cyclone	FCST PSN +6 HR:	nn/nnnnZ Nnn[nn] *or* Snn[nn] Wnnn[nn] *or* Ennn[nn]
26	New line			
27	Forecast of maximum surface wind (+ 6 HR) (M)	Forecast of maximum surface wind (6 hours after the DTG given in Item 5)	FCST MAX WIND +6 HR:	nn[n]KT
28	New line			
29	Forecast of centre position	Day and time (in UTC) (12 hours from the DTG given in Item 5)	FCST PSN +12 HR:	nn/nnnnZ Nnn[nn] *or* Snn[nn] Wnnn[nn] *or* Ennn[nn]

Ref.	Element	Detailed content	Template(s)	
	(+ 12 HR) (M)	Forecast position (in degrees and minutes) of the centre of the tropical cyclone		
30	New line			
31	Forecast of maximum surface wind (+ 12 HR) (M)	Forecast of maximum surface wind (12 hours after the DTG given in Item 5)	FCST MAX WIND +12 HR:	nn[n]KT
32	New line			
33	Forecast of centre position (+ 18 HR) (M)	Day and time (in UTC) (18 hours from the DTG given in Item 5) Forecast position (in degrees and minutes) of the centre of the tropical cyclone	FCST PSN +18 HR:	nn/nnnnZ Nnn[nn] *or* Snn[nn] Wnnn[nn] *or* Ennn[nn]
34	New line			
35	Forecast of maximum surface wind (+ 18 HR) (M)	Forecast of maximum surface wind (18 hours after the DTG given in Item 5)	FCST MAX WIND +18 HR:	nn[n]KT
36	New line			
37	Forecast of centre position (+ 24 HR) (M)	Day and time (in UTC) (24 hours from the DTG given in Item 5) Forecast position (in degrees and minutes) of the centre of the tropical cyclone	FCST PSN +24 HR:	nn/nnnnZ Nnn[nn] *or* Snn[nn] Wnnn[nn] *or* Ennn[nn]
38	New line			
39	Forecast of maximum surface wind (+ 24 HR) (M)	Forecast of maximum surface wind (24 hours after the DTG given in Item 5)	FCST MAX WIND +24 HR:	nn[n]KT
40	New line			
41	Remarks (M)	Remarks, as necessary	RMK:	Free text up to 256 characters *or* NIL
42	New line			
43	Expected time of issuance of next advisory (M)	Expected year, month, day and time (in UTC) of issuance of next advisory	NXT MSG:	[BFR] nnnnnnnn/nnnnZ *or* NO MSG EXP

(1) Used only when the message is issued to indicate that a test or an exercise is taking place. When the word 'TEST' or the abbreviation 'EXER' is included, the message may contain information that should not be used operationally or will otherwise end immediately after the word 'TEST'.
(2) In the case of CB clouds associated with a tropical cyclone covering more than one area within the area of responsibility, this element can be repeated, as necessary.
(3) The number of coordinates should be kept to a minimum and should not normally exceed seven.'

(39) Appendix 8 is replaced by the following:

'Appendix 8

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

Note: Row numbers in the 'Ref.' column are included only for clarity and ease of reference, and are not part of the template.

Ref.	Elements		Range	Resolution
1	Summit elevation:	FT	000–27 000	1
		M	000–8 100	1
2	Advisory number:	for VA (index) (1)	000–2 000	1
		for TC (index) (1)	00–99	1
3	Maximum surface wind:	KT	00–99	1
4	Central pressure:	hPa	850–1 050	1
5	Surface wind speed:	KT	30–99	1
6	Surface visibility:	M	0000–0750	50
		M	0800–5 000	100
7	Cloud: height of base:	FT	000–1 000	100
8	Cloud: height of top:	FT	000–9 900	100
		FT	10 000–60 000	1 000
9	Latitudes:	° (degrees)	00–90	1
		(minutes)	00–60	1
10	Longitudes:	° (degrees)	000–180	1
		(minutes)	00–60	1
11	Flight levels:		000–650	10
12	Movement:	KMH	0–300	10
		KT	0–150	5

(1) Non-dimensional.'

ANNEX V

Appendix 3 of Annex VI to Implementing Regulation (EU) 2017/373 is replaced by the following:

'Appendix 3

SNOWTAM FORMAT

(COM heading)	(PRIORITY INDICATOR)	(ADDRESSES)			<=
	(DATE AND TIME OF FILING)	(ORIGINATOR'S INDICATOR)			<=
(Abbreviated heading)	(SWAA* SERIAL NUMBER) S W * *	(LOCATION INDICATOR)	DATE-TIME OF ASSESSMENT	(OPTIONAL GROUP)	<=(
SNOWTAM →	(Serial number) <=				

Aeroplane performance calculation section			
(AERODROME LOCATION INDICATOR)	M	A)	<=
(DATE/TIME OF ASSESSMENT *(Time of completion of assessment in UTC)*)	M	B)	→
(LOWER RUNWAY DESIGNATION NUMBER)	M	C)	→
(RUNWAY CONDITION CODE (RWYCC) ON EACH RUNWAY THIRD) (From Runway Condition Assessment Matrix (RCAM) 0, 1, 2, 3, 4, 5 or 6)	M	D)	// →
(PER CENT COVERAGE CONTAMINANT FOR EACH RUNWAY THIRD)	C	E)	// →
(DEPTH (mm) OF LOOSE CONTAMINANT FOR EACH RUNWAY THIRD)	C	F)	// →
(CONDITION DESCRIPTION OVER TOTAL RUNWAY LENGTH (Observed on each runway third, starting from threshold having the lower runway designation number) COMPACTED SNOW DRY DRY SNOW DRY SNOW ON TOP OF COMPACTED SNOW DRY SNOW ON TOP OF ICE FROST ICE SLIPPERY WET SLUSH SPECIALLY PREPARED WINTER RUNWAY STANDING WATER WATER ON TOP OF COMPACTED SNOW WET WET ICE WET SNOW WET SNOW ON TOP OF COMPACTED SNOW WET SNOW ON TOP OF ICE	M	G)	// →
(WIDTH OF RUNWAY TO WHICH THE RUNWAY CONDITIONS CODES APPLY, IF LESS THAN PUBLISHED WIDTH)	O	H)	<==
Situational awareness section			
(REDUCED RUNWAY LENGTH, IF LESS THAN PUBLISHED LENGTH (m))	O	I)	→
(DRIFTING SNOW ON THE RUNWAY)	O	J)	→
(LOOSE SAND ON THE RUNWAY)	O	K)	→
(CHEMICAL TREATMENT ON RUNWAY)	O	L)	→
(SNOWBANKS ON THE RUNWAY (If present, distance from runway centre line (m) followed by 'L', 'R' or 'LR' as applicable))	O	M)	→
(SNOWBANKS ON A TAXIWAY)	O	N)	→
(SNOWBANKS ADJACENT TO THE RUNWAY)	O	O)	→
(TAXIWAY CONDITIONS)	O	P)	→
(APRON CONDITIONS)	O	R)	→
(MEASURED FRICTION COEFFICIENT)	O	S)	→
(PLAIN-LANGUAGE REMARKS)	O	T)	) <<=

NOTES:
1. *Enter ICAO nationality letters as given in ICAO Doc 7910, Part 2, or otherwise applicable aerodrome identifier.
2. Information on other runways, repeat from B to H.
3. Information in the situational awareness section repeated for each runway, taxiway and apron. Repeat as applicable, when reported.
4. Words in brackets () not to be transmitted.
5. For letters A) to T) refer to the *Instructions for the completion of the SNOWTAM format, paragraph 1, item b).*

SIGNATURE OF ORIGINATOR *(not for transmission)*

INSTRUCTIONS FOR THE COMPLETION OF THE SNOWTAM FORMAT

1. **General**

a) When reporting on more than one runway, repeat Items B to H (aeroplane performance calculation section).

b) The letters used to indicate items are only used for reference purpose and shall not be included in the messages. The letters, M (mandatory), C (conditional) and O (optional) mark the usage and information and shall be included as explained below.

c) Metric units shall be used and the unit of measurement shall not be reported.

d) The maximum validity of SNOWTAM is 8 hours. New SNOWTAM shall be issued whenever a new runway condition report is received.

e) A SNOWTAM cancels the previous SNOWTAM.

f) The abbreviated heading 'TTAAiiii CCCC MMYYGGgg (BBB)' is included to facilitate the automatic processing of SNOWTAM messages in computer databanks. The explanation of these symbols is:

TT =	data designator for SNOWTAM = SW;
AA =	geographical designator for Member States, e.g. LF = FRANCE;
iiii =	SNOWTAM serial number in a four-digit group;
CCCC =	four-letter location indicator of the aerodrome to which the SNOWTAM refers;
MMYYGGgg =	date/time of observation/measurement, whereby:
MM =	month, e.g. January = 01, December = 12;
YY =	day of the month;
GGgg =	time in hours (GG) and minutes (gg) UTC;
(BBB) =	optional group for:

Correction, in the case of an error, to a SNOWTAM message previously disseminated with the same serial number = COR.

Brackets in (BBB) shall be used to indicate that this group is optional.

When reporting on more than one runway and individual dates/times of observation/assessment are indicated by repeated Item B, the latest date/time of observation/assessment shall be inserted in the abbreviated heading (MMYYGGgg).

g) The text 'SNOWTAM' in the SNOWTAM Format and the SNOWTAM serial number in a four-digit group shall be separated by a space, e.g. SNOWTAM 0124.

h) For readability purposes for the SNOWTAM message, a linefeed shall be included after the SNOWTAM serial number, after Item A, and after the aeroplane performance calculation section.

i) When reporting on more than one runway, repeat the information in the aeroplane performance calculation section from the date and time of assessment for each runway before the information in the situational awareness section.

j) Mandatory information is:

1) AERODROME LOCATION INDICATOR;

2) DATE AND TIME OF ASSESSMENT;

3) LOWER RUNWAY DESIGNATOR NUMBER;

4) RUNWAY CONDITION CODE FOR EACH RUNWAY THIRD; and

5) CONDITION DESCRIPTION FOR EACH RUNWAY THIRD (when runway condition code (RWYCC) is reported 1–5).

2. **Aeroplane performance calculation section**

Item A – Aerodrome location indicator (four-letter location indicator).

Item B – Date and time of assessment (eight-figure date/time group giving time of observation as month, day, hour and minute in UTC).

Item C – Lower runway designator number (nn[L] or nn[C] or nn[R]).

Only one runway designator shall be inserted for each runway and always the lowernumber.

Item D – Runway condition code for each runway third. Only one digit (0, 1, 2, 3, 4, 5 or 6) is inserted for each runway third, separated by an oblique stroke (n/n/n).

Item E – Per cent coverage for each runway third. When provided, insert 25, 50, 75 or 100 for each runway third, separated by an oblique stroke ([n]nn/[n]nn/[n]nn).

This information shall be provided only when the runway condition for each runway third (Item D) has been reported as other than 6 and there is a condition description for each runway third (Item G) that has been reported other than 'DRY'.

When the conditions are not reported, this shall be signified by the insertion of 'NR' for the appropriate runway third(s).

Item F – Depth of loose contaminant for each runway third. When provided, insert in millimetres for each runway third, separated by an oblique stroke (nn/nn/nn or nnn/nnn/nnn).

This information shall only be provided for the following contamination types:

— *standing water, values to be reported 04, then assessed value. Significant changes 3 mm;*

— *slush, values to be reported 03, then assessed value. Significant changes 3 mm;*

— *wet snow, values to be reported 03, then assessed value. Significant changes 5 mm; and*

— *dry snow, values to be reported 03, then assessed value. Significant changes 20 mm.*

When the conditions are not reported, this shall be signified by the insertion of 'NR'for the appropriate runway third(s).

Item G – Condition description for each runway third. Any of the following condition descriptions for each runway third, separated by an oblique stroke, shall be inserted.

COMPACTED SNOW

DRY SNOW

DRY SNOW ON TOP OF COMPACTED SNOW

DRY SNOW ON TOP OF ICE

FROST

ICE

SLIPPERY WET

SLUSH

SPECIALLY PREPARED WINTER RUNWAY

STANDING WATER

WATER ON TOP OF COMPACTED SNOW

WET

WET ICE

WET SNOW

WET SNOW ON TOP OF COMPACTED SNOW

WET SNOW ON TOP OF ICE

DRY (only reported when there is no contaminant)

When the conditions are not reported, this shall be signified by the insertion of 'NR' for the appropriate runway third(s).

Item H – Width of runway to which the runway condition codes apply. The width in metres, if less than the published runway width, shall be inserted.

3. **Situational awareness section**

Elements in the situational awareness section shall end with a full stop.

Elements in the situational awareness section for which no information exists, or where the conditional circumstances for publication are not fulfilled, shall be left out completely.

Item I – Reduced runway length. The applicable runway designator and available length in metres shall be inserted (e.g. RWY nn [L] or nn [C] or nn [R] REDUCED TO [n]nnn).

This information is conditional when a NOTAM has been published with a new set of declared distances.

Item J – Drifting snow on the runway. When reported, 'DRIFTING SNOW' shall be inserted with a space 'DRIFTING SNOW' (RWY nn or RWY nn[L] or nn[C] or nn[R] DRIFTING SNOW).

Item K – Loose sand on the runway. When loose sand is reported on the runway, the lower runway designator shall be inserted with a space 'LOOSE SAND' (RWY nn or RWY nn[L] or nn[C] or nn[R] LOOSE SAND).

Item L – Chemical treatment on the runway. When chemical treatment has been reported applied, the lower runway designator shall be inserted with a space 'CHEMICALLY TREATED' (RWY nn or RWY nn[L] or nn[C] or nn[R] CHEMICALLY TREATED).

Item M – Snow banks on the runway. When snow banks are reported present on the runway, the lower runway designator shall be inserted with a space 'SNOWBANK' and with a space left 'L' or right 'R' or both sides 'LR', followed by the distance in metres from centre line separated by a space 'FM CL' (RWY nn or RWY nn[L] or nn[C] or nn[R] SNOWBANK Lnn or Rnn or LRnn FM CL).

Item N – Snowbanks on a taxiway. When snowbanks are present on taxiway(s), the taxiway(s) designator(s) shall be inserted with a space 'SNOWBANKS' (TWY [nn]n or TWYS [nn]n/[nn]n/[nn]n… or ALL TWYS SNOWBANKS).

Item O – Snow banks adjacent to the runway. When snow banks are reported present, penetrating the height profile in the aerodrome snow plan, the lower runway designator and 'ADJ SNOWBANKS' shall be inserted (RWY nn or RWY nn[L] or nn[C] or nn[R] ADJ SNOWBANKS).

Item P – Taxiway conditions. When taxiway conditions are reported slippery or poor, the taxiway designator followed by a space 'POOR' shall be inserted (TWY [n or nn] POOR or TWYS [n or nn]/[n or nn]/[n or nn] POOR… or ALL TWYS POOR).

Item R – Apron conditions. When apron conditions are reported slippery or poor, the apron designator followed by a space 'POOR' shall be inserted (APRON [nnnn] POOR or APRONS [nnnn]/[nnnn]/[nnnn] POOR or ALL APRONS POOR).

Item S – (NR) Not reported.

Item T – Plain-language remarks.'