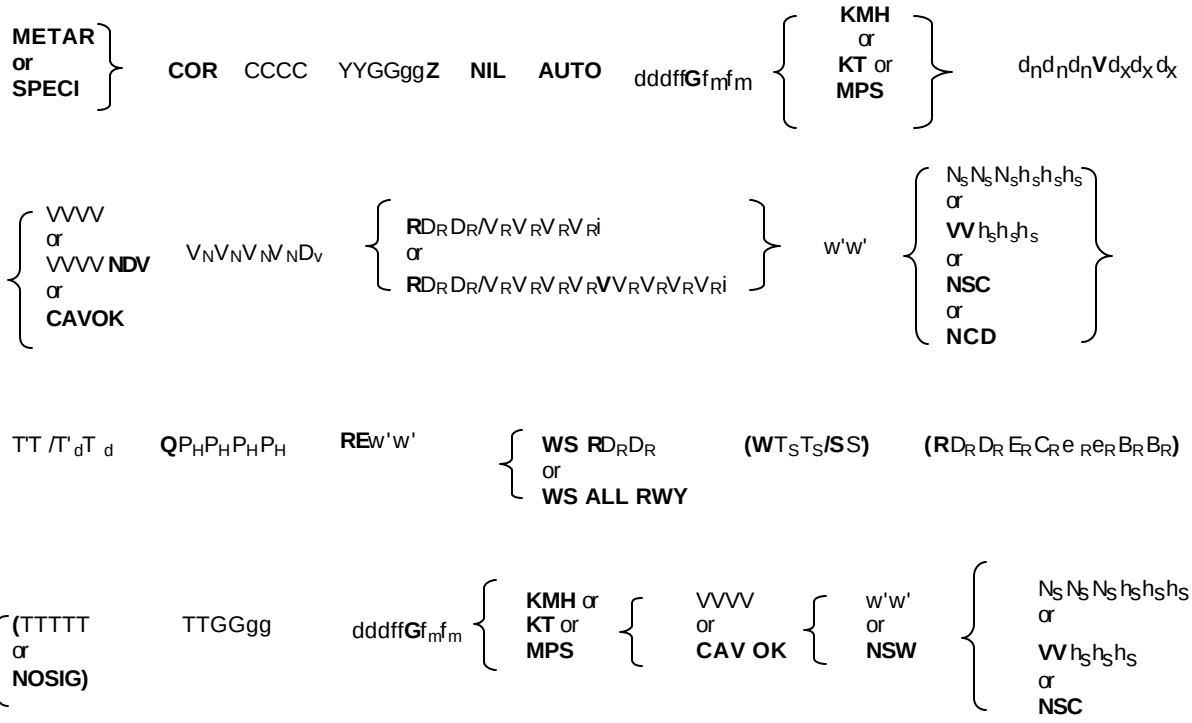
## AMENDMENTS TO FM 15– XIII METAR, FM 16 -XIII SPECI AND FM 51 -XIII TAF

**FM 15– XIII Ext. METAR** **Aerodrome routine meteorological report (with or without trend forecast)**

**FM 16-XIII Ext. SPECI** **Aerodrome special meteorological report (with or without trend forecast)**

**CODE FORM**:



**Changes to FM 15 and FM 16 Regulations:**

*Delete second sentence of Note of 15.6:*

15.6 **Groups** VVVV VVVV**NDV** $V_NV_NV_NV_ND_v$

N O T E: The coding of visibility is based on the use of the metre and kilometre, in accordance with the units specified in ICAO Annex 5. ~~However, some Members in Region IV use statute miles and fractions thereof in accordance with national coding procedures as indicated in Volume II of this Manual.~~

*In 15.6.2, insert after "50% of the prevailing visibility":* and less than 5 000 metres

15.6.2 Directional variation in visibility $V_NV_NV_NV_ND_v$

When the horizontal visibility is not the same in different directions and when the minimum visibility is different from the prevailing visibility, and less than 1 500 metres, or less than 50% of the prevailing visibility and less than 5 000 metres, the group $V_NV_NV_NV_ND_v$ shall also be used to report the minimum visibility and its general direction in relation to the aerodrome indicated by reference to one of the eight points of the compass. If the minimum visibility is observed in more than one direction, the $D_v$ shall represent the most operationally significant direction.

*Delete last sentence in Note of 15.7.*

. . .

15.7 **Groups** $RD_RD_R/V_RV_RV_RV_Ri$ or $RD_RD_R/V_RV_RV_RV_R\mathbf{V}V_RV_RV_RV_Ri$

N 0 T E: The coding of runway visual range is based on the use of the metre in accordance with the unit specified in ICAO Annex 5. ~~However, some Members in Region IV use feet in accordance with national coding procedures as indicated in Volume II of this Manual.~~

*Delete third sentence of 15.7.3 to read:*

15.7.3 **Runway designator** $D_RD_R/$

The designator of each runway for which runway visual range is reported shall be indicated by $D_RD_R$. Parallel runways should be distinguished by appending to $D_RD_R$ letters L, C or R indicating the left, central or right parallel runway, respectively. ~~. A suitable combination of these letters is used for up to, and including, five parallel runways (i.e. LL, L, C, R, RR).~~ The letter(s) shall be appended to $D_RD_R$ as necessary in accordance with the standard practice for runway designation, as laid down by ICAO in Annex 14 - Aerodromes, Volume I - Aerodrome design and operations, paragraphs 5.2.2.4 and 5.2.2.5.

*Add a sentence to ~~18~~15.8.6:*

. . .

15.8.6 If more than one significant weather phenomenon is observed, separate w'w' groups shall be included in the report in accordance with Code table 4678. However, if more than one form of precipitation is observed, the appropriate letter abbreviations shall be combined in a single group with the dominant type of precipitation being reported first. In such a single group, the intensity shall refer to the total precipitation and be reported with one or no indicator as appropriate.

When an automatic observing system is used and when the type of the precipitation cannot be identified by this system, the abbreviation UP shall be used for precipitation. The abbreviation UP may be combined, as necessary, with the following characteristics of present weather: FZ, SH and TS.

. . .

*Change Note (1) of 15.8.10 as:*

15.8.10 The qualifier VC shall be used to indicate the following significant weather phenomena observed in the vicinity of the aerodrome: TS, DS, SS, FG, FC, SH, PO, BLDU, BLSA, BLSN and VA. Regulations referring to the combination of VC and FG are given in Regulation 15.8.17.

NOTES:

(1) Such weather phenomena should be reported with the qualifier VC only when observed within eight kilometres of the aerodrome perimeter but not at the aerodromebetween approximately 8 km and 16 km from the aerodrome reference point.

(2) See Regulation 15.8.7.

*Delete **SKC** in 15.9:*

. . .

15.9 **Group** $N_SN_SN_sh_sh_sh_s$ or **VV**$h_sh_sh_s$ ~~or SKC~~ or **NSC** or **NCD**

*Change 15.9.1.1 as:*

15.9.1 *Cloud amount and cloud height* $N_SN_SN_sh_sh_sh_s$

15.9.1.1 Cloud amount, cloud type and height of cloud base shall be reported to describe the clouds of operational significance, i.e. clouds with the height of base below 1500 meters (5000 ft) or below the highest minimum sector altitude, whichever is greater, or Cumulonimbus or towering Cumulus at any height. The cloud amount $N_SN_SN_s$ shall be reported as few (1 to 2 oktas), scattered (3 to 4 oktas), broken (5 to 7 oktas) or overcast (8 oktas), using the three-letter abbreviations FEW, SCT, BKN and OVC followed, without a space, by the height of the base of the cloud layer (mass) hshshs. ~~If there are no clouds and no restriction on vertical visibility and the abbreviation CAVOK is not appropriate, the abbreviation SKC shall be used. If SKC is reported but visibility is restricted by FG, SS, DS, BR, FU, HZ, DU, IC and SA, vertical visibility shall not be reported.~~ If there are no clouds below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater, no Cumulonimbus and no towering cumulus and no restriction on vertical visibility and the abbre viations CAVOK ~~and SKC are~~is not appropriate, then the abbreviation NSC shall be used. When an automatic observing system is used and no clouds are detected by that system, the abbreviation NCD shall be used.

. . .

**Modify 15.9.1.5 as:**

" The height of cloud base shall be reported in steps of 30 m (100 ft) up to 3000 m (10000ft). Any observed value which does not fit the reporting scale in use shall be rounded down to the nearest lower step in the scale."

Change 15.9.1.6 as:

15.9.1.6 shall read

At mountain stations, when the cloud base is below station level, the cloud group ~~NSNsNs///.~~When cumulonimbus clouds or towering cumulus clouds are detected by the automatic observing system and the cloud amount and the height of cloud base cannot be observed, the cloud amount and the height of cloud base should be replaced by "//////"

*Add after "Cumulonimbus" in (b) of 15.10:*

. . .

15.10 **Code word CAVOK**

The code word **CAVOK** shall be included in place of the groups under Regulations 15.6, 15.8 and 15.9, when the following conditions occur simultaneously at the time of observation:

(a) Visibility: 10 km or more;
(b) No cloud below 1 500 metres (5 000 ft) or below the highest minimum sector altitude, whichever is greater, and no Cumulonimbus and no towering cumulus;
(c) No significant weather phenomena (see Code table 4678).

N O T E: Highest minimum sector altitude is defined in ICAO PANS-OPS, Part 1 - Definitions, as the lowest altitude which may be used under emergency conditions which will provide a minimum clearance of 300 metres (1 000 ft) above all objects located in an area contained within a sector of a circle of 46 km (25 nautical miles) radius centred on a radio aid to navigation.

. . .

*Keep only the first sentence of Note (2) of 15.12.2:*

15.12.2 If the value of QNH is less than 1000 hPa, it shall be preceded by 0; for example, QNH 995.6 shall be reported as Q0995.

NOTES:

(1) When the first digit following the letter indicator Q is either 0 or 1, the QNH value is reported in the unit hectopascal (hPa).

(2) The unit prescribed by ICAO Annex 5 for pressure is the hectopascal. ~~However if, by national decision and in accordance with requirements established by the authorities concerned, inches of mercury are used as the unit for QNH, the group shall be preceded by the letter A (instead of Q), followed by the value in inches, tenths and hundredths of inch, but without the decimal point. For example, QNH 29.91 in. shall be given as A2991, QNH 30.27 in. shall be given as A3027. When the QNH value is reported in the unit of inches of~~ mercury, the first digit following the letter indicator A is either 2 or 3.

*Change 15.13 as:*

15.13 **Supplementary information – groups**

REw'w' **WS R~~WY~~$D_RD_R$** or **WS ALL RWY** (**W**$T_ST_S$/**S**S') (~~RRRR~~**R**$D_RD_RE_RC_Re_Re_RB_RB_R$)

*Add a sentence to 15.13.2.1:*

15.13.2.1 Up to three groups of information on recent weather shall be given by the indicator letters RE followed, without a space, by the appropriate abbreviations, in accordance with Regulation 15.8 (but no intensity of the recent weather phenomena shall be indicated) if the following weather phenomena were observed during the period since the last routine report, or last hour, whichever is shorter, but not at the time of observation:

- Freezing precipitation;
- Moderate or heavy drizzle, rain or snow;
- Moderate or heavy: ice pellets, hail, small hail and/or snow pellets;
- Blowing snow;
- Sandstorm or duststorm;
- Thunderstorm;
- Funnel cloud(s) (tornado or water-spout);
- Volcanic ash.

When an automatic observing system is used and when the type of the precipitation cannot be identified by this system, the abbreviation REUP shall be used for recent precipitation. It may be combined with the characteristics of the present weather in accordance with Regulation 15.8.6.

. . .…

*Change 15.13.3 as:*

**WS R~~WY~~$D_RD_R$**

15.13.3 **Wind shear in the lower layers** or

**WS ALL RWY**

*Replace in the paragraph* **WS RWY**$D_RD_R$ *by* **WS R~~WY~~**$D_RD_R$.

*Change 15.3.6 and 15.13.6.1 and add a Note*:

. . .

15.13.6 State of the runway (~~RRRR~~**R**$D_RD_RE_RC_Re_Re_RB_RB_R$)

15.13.6.1 Subject to regional air navigation agreement, information on the state of the runway provided by the appropriate airport authority shall be included. ~~The runway designator RRRR shall be reported in accordance with the relevant ICAO regional Air Navigation Plan~~ The runway deposits $E_R$, the extent of runway contamination $C_R$, the depth of deposit $e_Re_R$ and the friction coefficient/braking action BRBR shall be indicated in accordance with code tables 0919, 0519, 1079 and 0366, respectively. The state of the runway group shall be replaced by the abbreviation SNOCLO when the aerodrome is closed due to extreme deposit of snow. If contaminations on a single runway or on all runways at an aerodrome have ceased to exist, this should be reported by replacing the last six digits of the group by "CLRD//".

Note.- Concerning runway designator $D_RD_R$, Regulation 15.7.3 applies. Additional code figures 88 and 99 are reported in accordance with the European Air Navigation Plan, FASID, Part III-AOP, Attachment A.

*Change 15.14.12 as:*

. . .

15.14.12 Inclusion of significant forecast weather w'w', using the appropriate abbreviations in accordance with Regulation 15.8, shall be restricted to indicate:

(1) the onset, cessation or change in intensity of the following weather phenomena:

- Freezing precipitation;
- Moderate or heavy precipitation (including showers);
- Duststorm;
- Sandstorm;
- Thunderstorm (with precipitation);

(2) the onset or cessation of the following weather phenomena:

- Freezing fog;
- Ice crystals;
- Low drifting dust, sand or snow;
- Blowing dust, sand or snow;
- Thunderstorm without precipitation;
- Squall
- Funnel cloud (tornado or waterspout

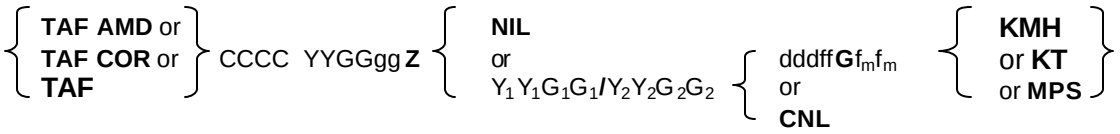
*Modify 15.14.14 as*

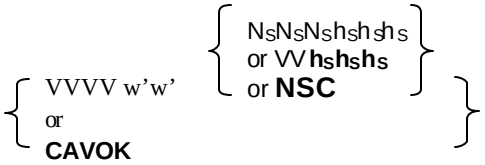
15.14.14 ~~To indicate a change to clear sky, the abbreviation SKC (sky clear) shall replace the groups~~

~~N,NSNshshsh, or VVhshshs.~~ When no cloud below 1 500 metres (5 000 ft) or the highest minimum sector altitude, whichever is greater, and no Cumulonimbus and no towering cumulus are forecast, and **CAVOK** ~~**or SKC** are~~**is** not appropriate, the abbreviation NSC shall be used.

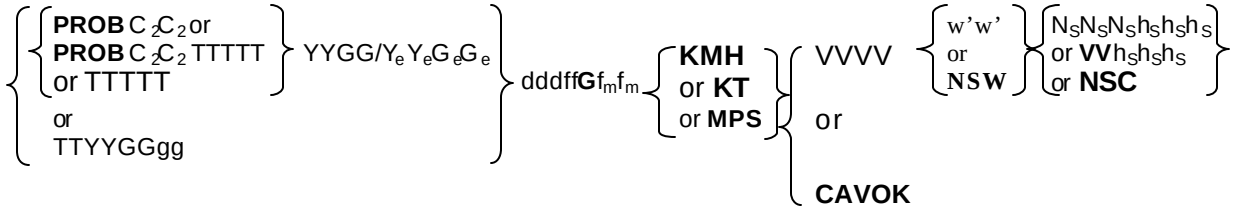
**FM 51-XIII Ext. TAF Aerodrome forecast**

**CODE FORM**:




(**TX** $T_F T_F/Y_F Y_F G_F G_F$ **Z** **TN** $T_F T_F/Y_F Y_F G_F G_F$ **Z**)



**CHANGES to REGULATIONS:**

51.1.4 The forecast shall cover the period $Y_1Y_1G_1G_1$ to $Y_2Y_2G_2G_2$. The forecast period may be divided into two or more self-contained parts by the use of the time indicator group TTYYGGgg in the form of FMYYGGgg. A complete description of the forecast prevailing conditions shall be given at the beginning of the forecast or the self-contained parts designated by FMYYGGgg. If any element is expected to change significantly during the forecast period or a selfcontained part thereof, one or more sets of change groups TTTTT YYGG/$Y_eY_eG_eG_e$ shall be added after the complete description of the conditions prevailing before the change. Each change group shall be followed by the modified elements subject to Regulation 51.1.5.

NOTES:

(1) The governing criteria for inclusion of change groups are specified in publication WMO-No. 49-Technical Regulations [C.3.1].

(2) See Regulation **51.8.1.**

51.1.5 The group w'w' and/or the group $N_SN_SN_Sh_Sh_Sh_S$, or **VV**$h_Sh_Sh_S$ shall be omitted if the corresponding element(s) is (are) expected to be absent or not significant. After change groups TTTTT YYGG/$Y_eY_eG_eG_e$, elements shall be omitted if they are not expected to differ significantly from the preceding values they possessed in the coded forecast (see Regulations 51.5.2, 51.6.1.7 and 51.6.3). However, in case of significant change of the clouds, all cloud groups, including any significant layer(s) or masses not expected to change, shall be given.

…

*Delete second sentence of note in 51.4:*

51.4 **Group VVVV**

NOTE: The coding of visibility is based on the use of the metre and kilometre, in accordance with the units specified in ICAO Annex *5.* However, in Region IV, statute miles and fractions thereof are used in accordance with national coding procedures as indicated in Volume II of this Manual.

…

*Change 51.5.1 to read:*

51.5.1 Inclusion of significant forecast weather w'w', using the appropriate abbreviations in accordance with Regulation 15.8, shall be restricted to indicate:

(1) the occurrence, cessation or change in intensity of the following weather phenomena:
- Freezing precipitation;
- Moderate or heavy precipitation (including showers);
- Duststorm;
- Sandstorm;
- Thunderstorm (with precipitation);

(2) the occurrence or cessation of the following weather phenomena:
- Ice crystals;
- Freezing fog;
- Low drifting dust, sand or snow;
- Blowing dust, sand or snow;
- Thunderstorm without precipitation;
- Squall;
- Funnel cloud (tornado or water spout)

…

*Change 51.6 as:*

$N_SN_SN_Sh_Sh_Sh_S$

or

51.6 **Group VV**$h_Sh_Sh_S$

~~or~~
~~**SKC (or NSC)**~~

*Delete 51.6.1.7:*

~~51.6.1.7 When clear sky is forecast, the cloud group shall be replaced by the abbreviation SKC.~~

*Modify 51.8 to 51.10.1 as follows:*

TTTTT YYGG/ $Y_eY_eG_eG_e$

51.8 **Groups** or

TTYYGGgg

51.8.1 These groups shall be used when, during the period $Y_1Y_1G_1G_1$ to $Y_2Y_2G_2G_2$, a change in some or all of the elements forecast is expected to occur at some intermediate time YYGGgg or during the period YYGG to $Y_eY_eG_eG_e$. Such groups shall not be introduced until all the data groups necessary to describe the elements forecast in the period $Y_1Y_1G_1G_1$ to $Y_2Y_2G_2G_2$ or YYGGgg have been given.

NOTES:
(1) If the end of the forecast period is midnight, $Y_eY_e$ should be the date before midnight and $G_eG_e$ should be indicated as 24.
(2) See Note (1) to Regulation 51.1.4.

51.8.2 The time indicator group TTYYGGgg in the form of FMYYGGgg (from YYGGgg) shall be used to indicate the beginning of a self-contained part of the forecast indicated by YYGGgg. When the group FMYYGGgg is used, all forecast conditions given before the group FMYYGGgg are superseded by the conditions indicated after the group.

51.8.3 The change groups TTTTT YYGG/ $Y_eY_eG_eG_e$ in the form of BECMG YYGG/ $Y_eY_eG_eG_e$ shall indicate a change to forecast meteorological conditions expected to occur at either a regular or irregular rate at an unspecified time within the period YYGG to $Y_eY_eG_eG_e$. The duration of the period YYGG to $Y_eY_eG_eG_e$ shall normally not exceed two hours and in any case shall not exceed four hours. The change groups shall be followed by a description of all the elements for which a change is forecast. When an element is not described in data groups which follow the change groups, the description of this element for the period between $Y_1Y_1G_1G_1$ and $Y_2Y_2G_2G_2$ shall be considered to remain valid subject to Regulation 51.1.5.

N O T E : The conditions described after the groups BECMG YYGG/ $Y_eY_eG_eG_e$ are those expected to prevail from $Y_eY_eG_eG_e$ until $Y_2Y_2G_2G_2$, unless a further change is expected, in which case a further set of change groups BECMG YYGG/ $Y_eY_eG_eG_e$ or FMYYGGgg must be used.

51.8.4 The change groups TTTTT YYGG/ $Y_eY_eG_eG_e$ in the form of TEMPO YYGG/ $Y_eY_eG_eG_e$ shall indicate frequent or infrequent temporary fluctuations to forecast meteorological conditions which are expected to last less than one hour in each instance and, in the aggregate cover, less than half of the period indicated by YYGG/ $Y_eY_eG_eG_e$.

NOTES:
(1) If the modified forecast condition is expected to last one hour or more, Regulation 51.8.2 or 51.8.3 applies, i.e. the change groups BECMG YYGG/ $Y_eY_eG_eG_e$ or FMYYGGgg must

be used at the beginning and end of the period during which conditions are expected to depart from those forecast prior to YYGG or YYGGgg.

(2) To keep forecasts clear and unambiguous, the use of change indicators should be carefully considered and kept to a minimum. In particular, the overlapping of change periods should be avoided. At any time during the period of validity of the TAF, only one possible variation to the prevailing forecast conditions should normally be indicated. The subdivision of the forecast period by FM YYGGgg should be used to avoid too complex forecasts in cases where many significant changes to weather conditions are expected to occur throughout the forecast period.

51.9 **Groups PROB$C_2C_2$ YYGG/ $Y_eY_eG_eG_e$**

51.9.1 In order to indicate the probability of occurrence of alternative value(s) of forecast element(s), during a defined period of time, the **PROB$C_2C_2$** YYGG/ $Y_eY_eG_eG_e$ shall be placed directly before the alternative value(s). For $C_2C_2$, only the values 30 and 40 shall be used to indicate the probabilities 30 and 40%, respectively.

N O T E: A probability of less than 30% of actual values deviating from those forecast is not considered to justify the use of the group PROB. When the possibility of an alternative value is 50% or more, this should be indicated by the use of BECMG, TEMPO or FM as appropriate.

51.9.2 A probability statement may also be related to the occurrence of temporary fluctuations. In this case, the group **PROB$C_2C_2$** shall be placed immediately before the change group TEMPO and the group YYGG/ $Y_eY_eG_eG_e$ shall be placed after TEMPO (for example PROB30 TEMPO 2922/3001).

51.9.3 The group **PROB$C_2C_2$** shall not be used in combination with the change indicator group BECMG or the time indicator group FM YYGGgg.

51.10 **Groups (TX$T_FT_F$/$Y_FY_FG_FG_F$Z TN$T_FT_F$/$Y_FY_FG_FG_F$Z)**

51.10.1 To indicate forecast maximum and minimum temperatures expected to occur at the time indicated by $Y_FY_FG_FG_F$**Z**, the letter indicator **TX** for the maximum forecast temperature and **TN** for the minimum forecast temperature shall precede $T_FT_F$ without a space.

**Changes to Specification of symbolic letters:**

1. Entry for YY

Delete FM 51 from sub-paragraph (b)

Add subparagraphs:

(d) On which the forecast was issued (FM 51)

(e) Indicating the date (day) on which part of the forecast commences or a forecast change commences (FM 51)

2. Entry for $Y_FY_F$

Add paragraph

Valid day of the month (UTC) of the temperature forecast (FM 51)

3. Entry for $Y_eY_e$

Add paragraph:

Day of month (UTC) of end of forecast change

4. Entry for $Y_2Y_2$

Add FM51 to the list of code forms.

5. Change $D_RD_R$ to:

"Runway designator reported in accordance with ICAO Annex 14."
(FM 15, FM 16)

6. Delete $R_RR_R$.

**Change in Notes to Code Table 4678**

(10) The descriptor SH shall be used only in combination with one or more of the letter abbreviations RA, SN, ~~PL~~, GS, GR and UP to …..

(11) The descriptor TS, if not used on its own, shall be used only in combination with one or more of the letter abbreviations RA, SN, GS, GR and UP to indicate thunderstorm …….

(12) The descriptor FZ shall be used only in combination with the letter abbreviations FG, DZ, RA and UP for example FZRA.