International Civil Aviation Organization

THE THIRTEENTH MEETING OF ASIA/PACIFIC REGIONAL OPMET BULLETIN EXCHANG WORKING GROUP (ROBEX WG/13)

Seoul, the Republic of Korea, 16 – 18 March 2015

Agenda Item 4: OPMET exchange

QUALITY CONTROL PROGRAM IN METAR

(Presented by the Republic of Korea)

SUMMARY

This paper presents the function of quality control in METAR input system to decrease the number of METAR errors.

1. INTRODUCTION

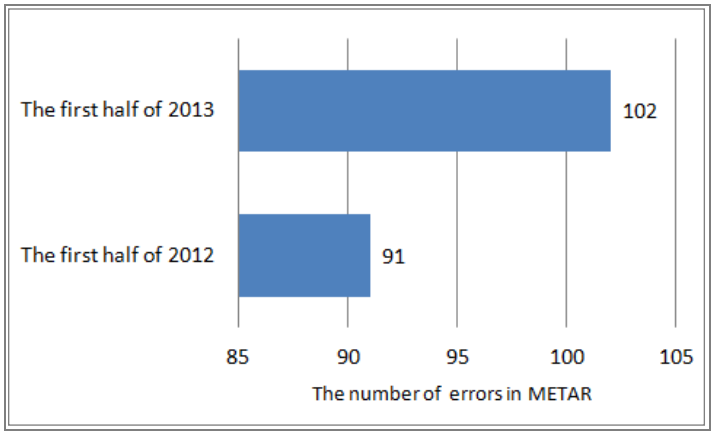
1.1 For the purpose of compliance with ICAO Annex 3 and WMO-No.306, Manual on Codes, regarding the format and coding of the information included in the bulletin, Korea Aviation Meteorological Agency (KAMA) implemented the monthly and annual evaluation of METAR errors by human factor in ALL 13 AOP aerodrome from January 1, 2011.

2. DISCUSSION

2.1 KAMA notified observers of errors or mistakes in evaluation results and gave training about the regulation on METAR. As a result, the number of errors has been reduced from 248 in 2011 to 163 in 2012.

2.2 However, such methods have reached the limit. The number of errors in the first half of 2013 increased by 102 compared to 91 in the first half of 2012. To reduce the number of errors, KAMA analyzed the errors from January to June 2013, and found out that many observers had repeatedly produced METAR errors: errors by misprinting, weather phenomenon errors and missing of trend forecast in order of frequency count.

2.3 Based on these, the METAR input system, as part of the AMIS (Aviation Meteorological Integrated information System), was upgraded in 2012 by adding QC program for the protection of METAR errors by human factor, and was applied to 7 aerodromes (except military aerodrome) in 2013.



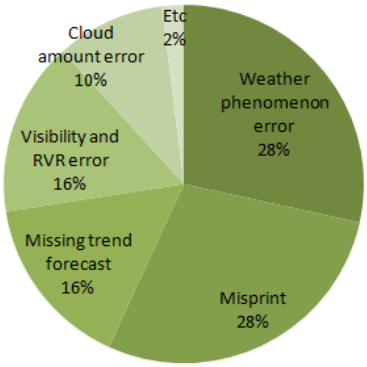


Fig.1. The result in the analysis of the number of errors in METAR in the first half of 2012, 2013.

2.4 As a result, the number of errors has been significantly reduced from 62 in 2014 to 153 in 2012. If this METAR input program is applied to military aerodromes from March 1, 2015, the number of errors will be very few. In near future, KAMA hopes to help foreign Aerodrome meteorological offices that need this METAR input program.

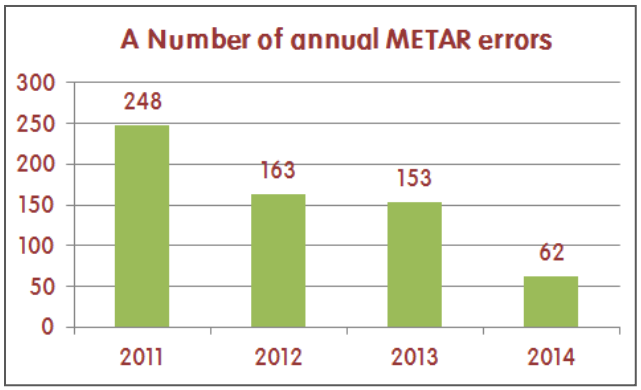


Fig.2. The decrease of annual METAR errors due to the training of observers and the improvement of METAR Input system.

3. ACTION BY THE MEETING

3.1 The meeting is invited to discuss KAMA's QC program functions in attachment.

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ATTACHMENT

The example of the function in METAR input system

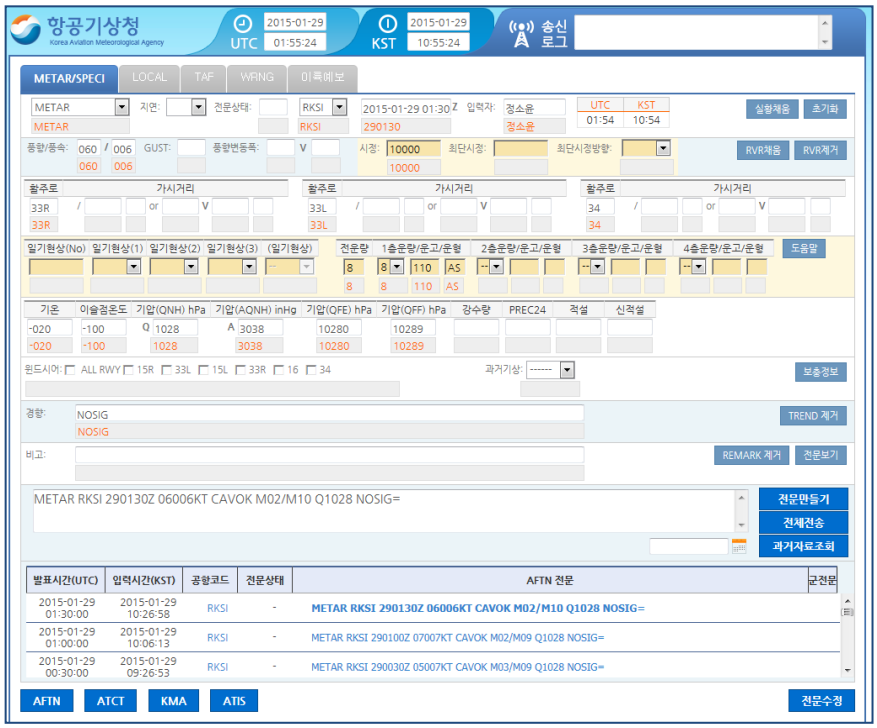
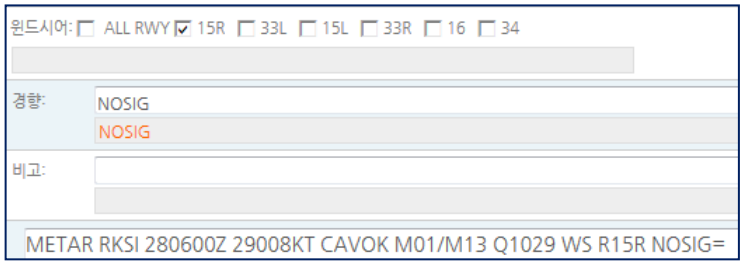
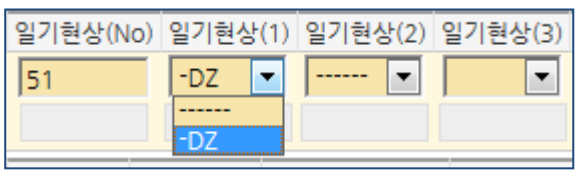
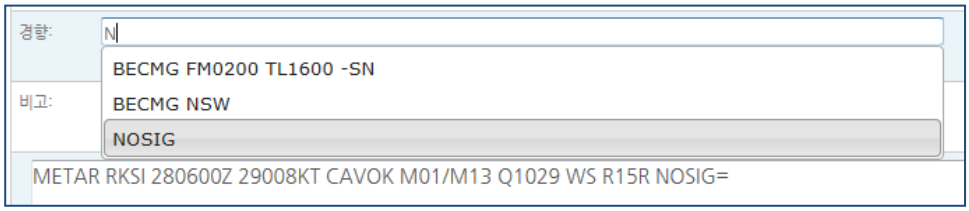
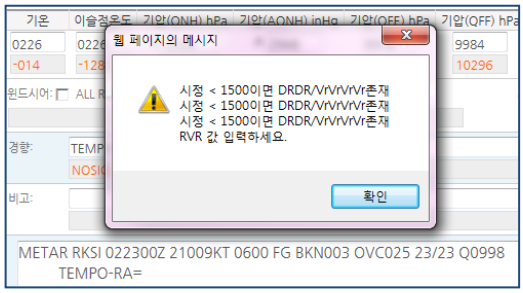
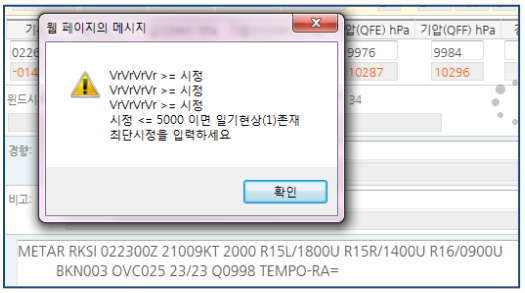
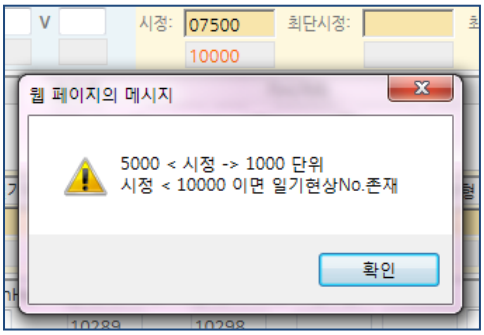
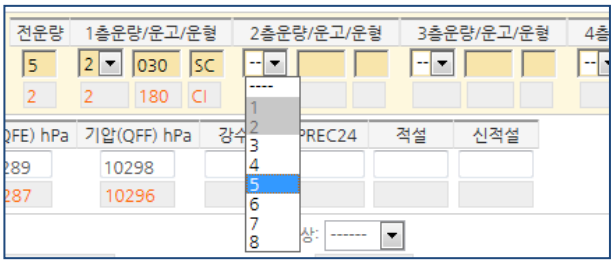


Fig. 1. A display in METAR input system, as part of the AMIS (Aviation Meteorological Integrated information System)

Table 1. Description for QC function for sorting METAR error

No.	Description
Case 1	 The QC function for the misprint of supplementary information, wind shear.
Case 2	 The QC function for the misprint of weather phenomena. As soon as a observer tabs in

	4677 code, 4678code is displayed automatically.
Case 3	 The QC function for the misprint of takeoff forecast. As soon as a observer tabs in an initial letter, all sentences are displayed automatically.
Case 4	  The QC function for the mistake of visibility and RVR. Reference, DOC. 8896, '*2.3.10.1 RVR should be reported whenever visibility or RVR is less than 1 500 m*'
Case 5	 The QC function for the range of visibility. Reference, ANNEX 3, '*4.2.4.1 In local routine and special reports and in 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'*

Case 6	 The QC function for the mistake of the cloud amount in increasing order of cloud base. Reference, ANNEX 3, 4.5.4.3, '*e) when several layers or masses of cloud of operational significance are observed, their amount and height of cloud base should be reported in increasing order of the height of cloud base, and in accordance with the following criteria: 1) the lowest layer or mass, regardless of amount to be reported as FEW, SCT, BKN or OVC as appropriate;2) the next layer or mass, covering more than 2/8 to be reported as SCT, BKN or OVC as appropriate;3) the next higher layer or mass, covering more than 4/8 to be reported as BKN or OVC as appropriate;*'