

International Civil Aviation Organization

ICAO

**NINTH MEETING OF THE ASIA AND PACIFIC
METEOROLOGICAL REQUIREMENTS WORKING
GROUP (MET/R WG/9)**

Web-conference, 07 May 2020 and 11 – 14 May 2020

Agenda Item 4: MET information required to support end-user systems**ENCOURAGEMENT TO TRANSMIT SPECIAL AIR-REPORTS
TO METEOROLOGICAL WATCH OFFICES FOR IMPROVEMENT OF SIGMETs**

(Presented by Japan, Lao PDR, Myanmar, Philippines, Thailand and Viet Nam)

SUMMARY

Special air-reports, also called ARS or AIREP SPECIAL, are important information sources to recognize current en-route weather conditions and to prepare appropriate SIGMETs by forecasters in Meteorological Watch Offices (MWOs). In addition, they are essential data for verification of en-route weather forecasts that are created largely based on numerical weather prediction. However, some MWOs do not receive enough number of air-reports to make their decision on whether to issue SIGMETs and conduct their verification. Therefore, aircrafts and air traffic services units are strongly encouraged to compile more special air-reports and transmit them to their associated MWOs than ever for improvement of both quantity and quality of en-route meteorological information including SIGMETs

1. INTRODUCTION

1.1 Special air-reports are one of the most important sources in creating SIGMET as well as numerical weather prediction and meteorological satellite imagery. In addition, they are essential data to verify en-route weather forecast including numerical weather prediction.

1.2 According to the Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM, ICAO Doc 4444), special air-reports are defined as reports made by all aircraft whenever specified significant meteorological phenomena are encountered or observed, and air traffic services units shall forward them without delay to their associated meteorological watch offices when receiving special air-reports by voice communications or data link communications. Compilation and transmission of special air-reports enable MWOs to obtain a good view of en-route weather conditions and to prepare SIGMETs in a timely manner. In addition, those reports are considered as an essential data for verification of en-route weather forecasts including numerical weather prediction.

Agenda Item 4

11-14/05/20

2. DISCUSSION

2.1 In Southeast Asian region, the success of cross-border SIGMET coordination activities such as Collaborative SIGMET Issuance (CSI) framework has brought substantial improvement in quality of SIGMET information and issuance of harmonized SIGMETs near boundaries of FIRs. However, regarding preparation of WS SIGMETs for turbulence and/or icing that is mostly based on numerical weather predictions, it is very difficult to evaluate whether the numerical weather predictions are correct and reliable if special air-reports are not received.

2.2 Number of received special air-reports in 2019 by CSI member MWOs is as shown in the table below. The number of special air-reports varies greatly from State to State. Some members have difficulties in making decision whether to issue SIGMETs for turbulence and/or icing due to significant lack of relevant special air-reports.

| MWO (FIR) | Number of received special air-reports in 2019 | | |
|---------------------------|--|-------|--------------|
| | Turbulence | Icing | Thunderstorm |
| Bangkok (Bangkok) | 89 | 3 | 0 |
| Hanoi (Hanoi) | 162 | 1 | 0 |
| Ho Chi Minh (Ho Chi Minh) | 70 | 0 | 2 |
| Manila (Manila) | 0 | 0 | 0 |
| Tokyo (Fukuoka) | 3502 | 76 | 43 |
| Vientiane (Vientiane) | 0 | 0 | 0 |
| Yangon (Yangon) | 0 | 0 | 0 |

2.3 In this context, CSI member States recalled at the CSI Workshop held in December 2019 that special air-reports are one of the most important and indispensable information sources for not only timely preparation but also verification of SIGMETs that is necessary for improvement of the quality of SIGMETs for turbulence and icing. The CSI member States noted that the cooperation by the airlines and air traffic services units relaying special air-reports is essential in order to receive observation data from the aircrafts in flight in a timely manner.

3. CONCLUSION

3.1 As noted above, special air-reports are important information for MWOs to prepare SIGMETs. However, it was clarified at the CSI Workshop that some MWOs did not receive enough number of special air-reports and more special air-reports were needed to improve SIGMETs for turbulence and icing.

3.2 Airlines and air traffic services units should be encouraged to send more special air-reports to their associated MWOs so that they utilize the reports in creating and verifying en-route weather forecasts, provide more accurate forecasts and further contribute to the safety of aircraft operations.

4. ACTION BY THE MEETING

4.1 The meeting is invited to:

4.1.1 note the information contained in this paper; and

4.1.2 discuss possible ways to encourage airlines and air traffic services units to share more special air-reports to their associated MWOs.
