



ICAO

International Civil Aviation Organization**INFORMATION PAPER****Twenty-fourth Meeting of the Meteorology Sub-group (MET SG/24) of the Asia and Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG)**

Web-conference, 16 – 20 November 2020

**Agenda Item 5:** Research, development and other initiatives**RECENT PROGRESS OF INTERNATIONAL COOPERATION SCHEME ON COLLABORATIVE SIGMET ISSUANCE (CSI)**

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

**SUMMARY**

This paper presents progress on the international cooperation scheme of the Collaborative SIGMET Issuance (CSI) among six member States: Japan, Lao PDR, Myanmar, Philippines, Thailand and Vietnam, highlighting the outcomes of the CSI Workshop held in December 2019 in Tokyo inviting the CSI member States and a representative from ICAO Regional Office, to discuss further enhancement and expansion of SIGMET coordination in the Region.

**1. INTRODUCTION**

1.1 Noting the presence of SIGMET discontinuity between FIRs and the requirements for harmonized en-route hazardous weather information, the Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA), the Vietnam Air Traffic Management Corporation (VATM) and the Japan Meteorological Agency (JMA) launched a demonstration project on Collaborative SIGMET Issuance in 2015. The Department of Meteorology and Hydrology of Lao PDR (LDMH), the Department of Meteorology and Hydrology of Myanmar (MDMH) and the Thai Meteorological Department (TMD) joined the project in 2016.

1.2 The demonstrations were carried out successfully four times from 2016 to 2018, and the project member States developed SIGMET coordination procedures as well as the dedicated web platform provided by JMA. In addition, several training opportunities were provided by JMA as a part of the project, which led to the improvement of forecasters' skill in issuing SIGMET among participating MWOs. The air navigation service providers (ANSPs) and airlines that have regular operation in the target area were invited to participate in the project to conduct assessments. They appreciated the outcomes of those demonstrations in terms of improvements in the availability, quality and consistency of the SIGMETs issued during the demonstrations, and requested the transition of the project into operational coordination.

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1.3 Acknowledging the maturity of SIGMET coordination procedures, JMA's supporting tools and information and requests from aviation users who evaluated the project, the member States decided to transfer the project into the operational phase with documented scheme of cooperation from 9th April 2018. Figure 1 shows the overview of the CSI procedures. It is a joint cooperation scheme among CSI member States to prepare and issue SIGMET in a collaborative manner based on jointly-developed coordination procedures and using common tools and supporting information.

**2. DISCUSSION**

2.1 The CSI Workshop was held at the Japan Meteorological Agency HQ (Tokyo, Japan) from 16 to 19 December 2019. During the workshop, the CSI session was participated by 16 experts from JMA, LDMH, MDMH, PAGASA, TMD and VATM and Mr. Peter Dunda, Regional Officer for MET/Climate from ICAO Asia/Pacific Regional Office. Furthermore, Ms. Lan Oanh Nguyen from Civil Aviation Authority of Viet Nam, joined a part of the session through WebEx as an invited expert. In addition to the participants of the CSI Session, experts from the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG), the Malaysian Meteorological Department (MMD), the Meteorological Services Singapore (MSS) and the Australian Bureau of Meteorology (BoM) joined the Joint session on the afternoon of 17 December through WebEx.

The CSI session

2.2 JMA, as the coordinator of the CSI Scheme, presented the summary of the progress of CSI's operational phase which had started April 2019. The CSI member States reported the progress in each organization and technical issues identified through daily operational coordination.

2.3 The participants reviewed the progress of the CSI Scheme and discussed those technical issues raised by the CSI member States, as follows;

- The CSI member States reviewed recent activities such as the introduction of logbook and the improvement of JMA web tool, and agreed to update the technical specification of the CSI adding a sample template of the logbook and a flow chart for SIGMET coordination. In addition, the CSI member States agreed on the need to develop the definition of 'consensus' to be added to the technical specification. Furthermore, the CSI member States welcomed MMD's interest in participating in the CSI.
- The participants acknowledged that special air-reports are an essential source for SIGMET for turbulence and icing and there was a clear and keen need to encourage airlines and ATS units to report and relay more special air-reports to MWOs. It was also agreed to share each own effort among CSI member States in receiving more special air-reports. The ICAO Secretariat also recommended submitting a working paper to MET/R WG/9, which was planned to be held in Bangkok in May 2020, because ATFM/SG meeting was scheduled to be held in conjunction with MET/ATFM seminar, and many relevant experts in ATM field were expected to attend.
- The participants shared challenges regarding WC SIGMET issuance and coordination in the following cases;

- TC center is in an FIR but CBs associated with the TC are outside the FIR
- TC passes through an FIR but TCA does not have observed or forecasted TC center within the FIR.

The CSI member States agreed to continue to discuss these issues further in detail.

- JMA reported that it had started to collect the opinions of Japanese airlines on acceptable range of difference in SIGMETs across FIR boundaries. In the future, questionnaire for airlines will be collected and the summary will be shared to the other CSI member States so that each CSI member State will be able to start to collect airline users' views in a similar way.

The Joint session with Operational SIGMET Coordination (OSC) members

2.4 During the joint session with the OSC, the participants discussed as follows;

- The participants reviewed the result of a trial WV SIGMET coordination between PAGASA and BMKG during VOLCEX 19/02 conducted in September 2019. It was introduced that coordination on the movement of volcanic ash cloud into the adjacent FIR and confirmation on the contents of issued SIGMET messages were effectively conducted using the chat function of JMA web tool. The meeting agreed to continue to consider a way to include FCST+6hr and FCST+12hr of VAA in one WV SIGMET with enough lead time.
- As to the three SIGMET coordination trials agreed at the previous CSI workshop held in March 2019, considering various issues such as overwhelming workload of forecasters, it was agreed to have three “one-to-one basis” coordination trials using JMA web tool; such as TMD-MMD, PAGASA-NWS, and BMKG-BoM. The participants concurred that target phenomena and period of coordination should be determined by MWOs involved, taking into account the amount of workload of each MWO forecasters. Furthermore, the participants were informed that both TMD and MMD had already sufficiently prepared for operational coordination. It was agreed that the coordination between TMD and MMD should be conducted on operational basis, not as another trial.

Progress after the CSI Workshop in December 2019

2.5 Progress of the discussion after the CSI Workshop is as follows;

- Although MET/R WG/9 was held unaccompanied by other meetings or seminars from 11 to 14 May via web-conference due to the impact of the novel coronavirus (COVID-19) outbreak, CSI member States proposed to discuss plausible ways to encourage airlines and ATS units to share more special air-reports to their associated MWOs in the meeting. MET/R WG agreed that ICAO Asia/Pacific Regional Office will issue a State Letter to indicate the importance of exchange special air-reports between airlines, ATS units and MWOs (and aerodrome meteorological offices). Furthermore, CSI member States also raised this issue at MET/S WG/10 and invited MET/S WG to support the aforementioned agreed action of MET/R WG. MET/S WG concurred with the proposal and formulated the following Decision;

**Decision MET/S WG/10/1: Encourage airlines and ATS units to share more special air-reports to the associated MWOs**

*That, MET/S WG supports the agreed action at MET/R WG/9 (Action 9/1) that invites ICAO to publicise by way of State letter (and/or other channels) the importance of exchanging special air-reports between airlines, ATS units and MWOs (and aerodrome meteorological offices).*

- In recent regular monthly online meetings, the CSI member States have discussed issues related to WC SIGMET issuance. It was found that each State has different views on the way to issue WC SIGMET and, therefore, the CSI member States agreed to initiate this work by seeking common understanding about WC SIGMET issuance.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Note the information contained in this paper.

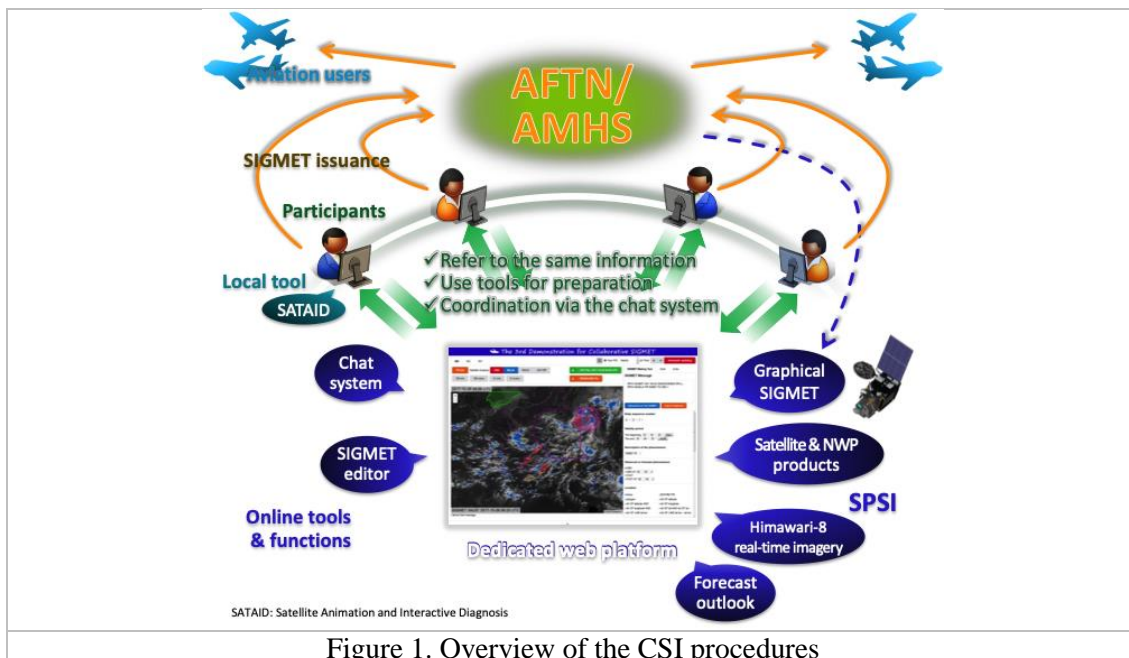


Figure 1. Overview of the CSI procedures