

International Civil Aviation Organization

ICAO

INFORMATION PAPER**ICAO Asia and Pacific (APAC)**Twenty-Sixth Meeting of the Meteorology Sub-Group
(MET SG/26)

Online, 1 to 5 August 2022

Agenda Item 6: Research, development and other initiatives**COLLABORATIVE SIGMET ISSUANCE (CSI) PROJECT — RECENT PROGRESS AND FUTURE PLAN**

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

SUMMARY

This paper presents recent progress and future plan of the Collaborative SIGMET Issuance (CSI) Project, including outcomes of the CSI workshop held in January 2022.

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 (CSI) 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. The members decided to transfer the project into the operational phase in April 2018. Furthermore, the Malaysian Meteorological Department (MMD) participates in the project as an observer since January 2020.

2. DISCUSSIONRecent progress

2.1 The project members held a three-day online workshop in January 2022, and discussed following agenda items.

- WC SIGMET Handover
- Expansion of SIGMET coordination
- Dealing with the increased workload on forecasters due to expansion of SIGMET coordination
- Acceptable differences of SIGMETs and further survey

MWOs of the surrounding FIRs were invited to the last day afternoon session to discuss expansion of SIGMET coordination. Summary of the whole workshop is attached to this paper.

2.2 As reported to the MET/S WG/12 in March 2022 by the project member countries, the workshop identified following issues.

- Conducting a further survey for a wide range of users in the Region for more efficient SIGMET coordination regarding relevant issues such as acceptable differences of SIGMETs.
- Encouraging tool providers for SIGMET coordination to discuss feasible solutions to improve the convenience of utilizing multiple web platforms.

2.3 Regarding the first issue, MET/S WG/12 participants suggested the project members to collaborate with its ad hoc group on SIGMET Coordination.

2.4 Concerning the convenience of web platforms, MET/S WG/12 participants who were involved in more than one SIGMET coordination scheme reported that they would possibly find difficulty to ensure harmonized SIGMET information when moving between the different platforms. The platform providers responded that they would discuss a feasible solution to improve the convenience of utilizing multiple web platforms, and that was noted by the Meeting.

2.5 After the Meeting, JMA, as one of the web platform providers, has started discussion with the Hong Kong Observatory (HKO), one of the other providers, about this issue. They think interoperable chat function may be a solution, though there are still many organizational and technical concerns to realize the plan, due to the different specifications between them.

Future plan

2.6 The effort of the providers should be continued with considering user's feedback to reduce forecasters' workload and further realize effective and efficient SIGMET harmonization. The CSI project members, both as the platform provider and users, will continuously contribute to solving this issue.

2.7 The project members plan to review the operational phase since 2018 spring and report its summary to MET/S WG meeting for consideration to enhance the regional activities on SIGMET coordination.

3. ACTION BY THE MEETING

3.1 Note the information contained in this paper.

Summary of Collaborative SIGMET Issuance (CSI) Workshop

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 (CSI) 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. The members decided to transfer the project into the operational phase with documented scheme of cooperation from 9th April 2018. Furthermore, the Malaysian Meteorological Department (MMD) participates in CSI as an observer.

1.2 Figure 1 shows the overview of the CSI procedures. It is a joint cooperation scheme among CSI members to prepare and issue SIGMET in a collaborative manner based on jointly-developed coordination procedures and using common tools and supporting information.

1.3 The CSI members are conducting monthly online meetings to review and evaluate the performance of coordination and the coordination procedure, including the content and functionality of the web platform.

2. DISCUSSION ON THE CSI WORKSHOP

2.1 The CSI Workshop was held via on-line from 18 to 19 January 2022. During the workshop, CSI Session with CSI members was held on 18 and 19 January and was attended by experts from the JMA, LDMH, MDMH, PAGASA, TMD, VATM and MMD. Ms. Lan Oanh Nguyen from the Civil Aviation Authority of Vietnam (CAAV) and Mr. Peter Dunda, Regional Officer Aeronautical Meteorology and Environment, ICAO APAC Office, also participated. In addition, the Joint Session was held on the afternoon of 19 January with the participation of the CSI Session participants, experts from the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG), the Meteorological Services Singapore (MSS), the Australian Bureau of Meteorology (BoM) and National Weather Service of the US (NWS).

CSI Session

2.2 The participants reviewed that CSI members revised the Technical Specifications about WC SIGMET Handover procedure based on the discussion in the previous CSI Workshop. They also discussed the smooth handover of WC SIGMET based on some cases, and the following opinions were expressed.

- It is necessary to consider setting the maximum validity period in WC SIGMET when a TC is moving to adjacent FIR to prevent the discontinuity of WC SIGMET issuance and apply cancellation once the adjacent FIR has issued the WC SIGMET (observe) or has reached the start of the validity period of the issued WC SIGMET (forecast).
- Preliminary issuance (maximum lead time is 12 hours) of WC SIGMET based on the forecast is beneficial.

- It would be useful for WC SIGMET handover if TCACs issued TCAs more frequently, for example 3 hourly and if forecasts included a finer time resolution, e.g. every 3 hours.

2.3 The results of a preliminary survey of MWOs on increasing workload of forecasters due to expansion of SIGMET coordination were reported. The outline is as follows.

- While some MWOs feel the increase of workload, there are some MWOs who do not think their workload have been increased. At present, the number of adjacent MWOs with which they conduct SIGMET coordination does not necessarily correspond to the perceived workload, which may vary depending on the circumstances of each MWO (e.g., staffing issues), but may increase as coordination expands.
- External factors of the workload included the staff shortage, the fact that there are tasks other than SIGMET issuance/coordination in significant weather, and the fact that there exist time periods when officers are not able to monitor the communications related to the coordination due to several reasons.

2.4 Any SIGMET coordination are to be recorded in a logbook for review and case studies to support the improvement of procedures and techniques. Most MWOs were recording the logbooks, but some had not yet started. As to the issues with logbook recording, it was pointed out that the format of the logbook differs among the SIGMET coordination frameworks. There was a suggestion to consider the need to identify the minimum common items to be recorded and the criteria for consensus.

2.5 The participants reconfirmed the importance of the SIGMET coordination with Cambodia since Phnom Penh FIR is surrounded by the FIRs of the CSI member States.

2.6 JMA reviewed the result of a survey for airlines conducted last year about the acceptable difference of SIGMETs issued by neighbor MWOs. Due to the COVID-19 outbreak, this survey had been carried out by one airline. Participants agreed to submit a proposal on conducting survey for a wide range of users in the Region, not limited to the CSI member States, at the 12th meeting of the ICAO APAC Meteorological Services Working Group (MET/S WG/12).

Joint Session

2.7 Following progress of expansion of SIGMET coordination was reported.

2.7.1 Regarding two SIGMET coordination trials which is agreed at the Joint Session of the previous CSI Workshop held in January 2021, MDMH-MMD (Kuala Lumpur MWO) and MMD (Kota Kinabalu MWO)-MSS-PAGASA, had transferred to the operational phase from 1 November 2021 and 15 October 2021 respectively.

2.7.2 Coordination trial between PAGASA and NWS (HFO) was transferred to the operational phase on 1 February 2021. The coordination trial between BoM and BMKG was ended in April 2021 and a review meeting would be held to discuss the next stage.

2.8 As further expansion of SIGMET coordination, it was reported that the coordination trial has been started between PAGASA, BMKG and China (Sanya MWO). It was also reported that the SIGMET coordination trial between BMKG and NWS (HFO) is planned. In addition, it was proposed and agreed to involve TMD and VATM in the coordination with MSS-MMD-PAGASA-BMKG.

2.9 Participants expressed a concern that the multiple coordination platforms, particularly the chat tools, would become a workload for forecasters and lead to confusion as SIGMET coordination expands. Participants proposed to raise it in the ICAO APAC MET/S WG meeting to encourage the tool providers to discuss this multiple platform issue and find feasible solutions.

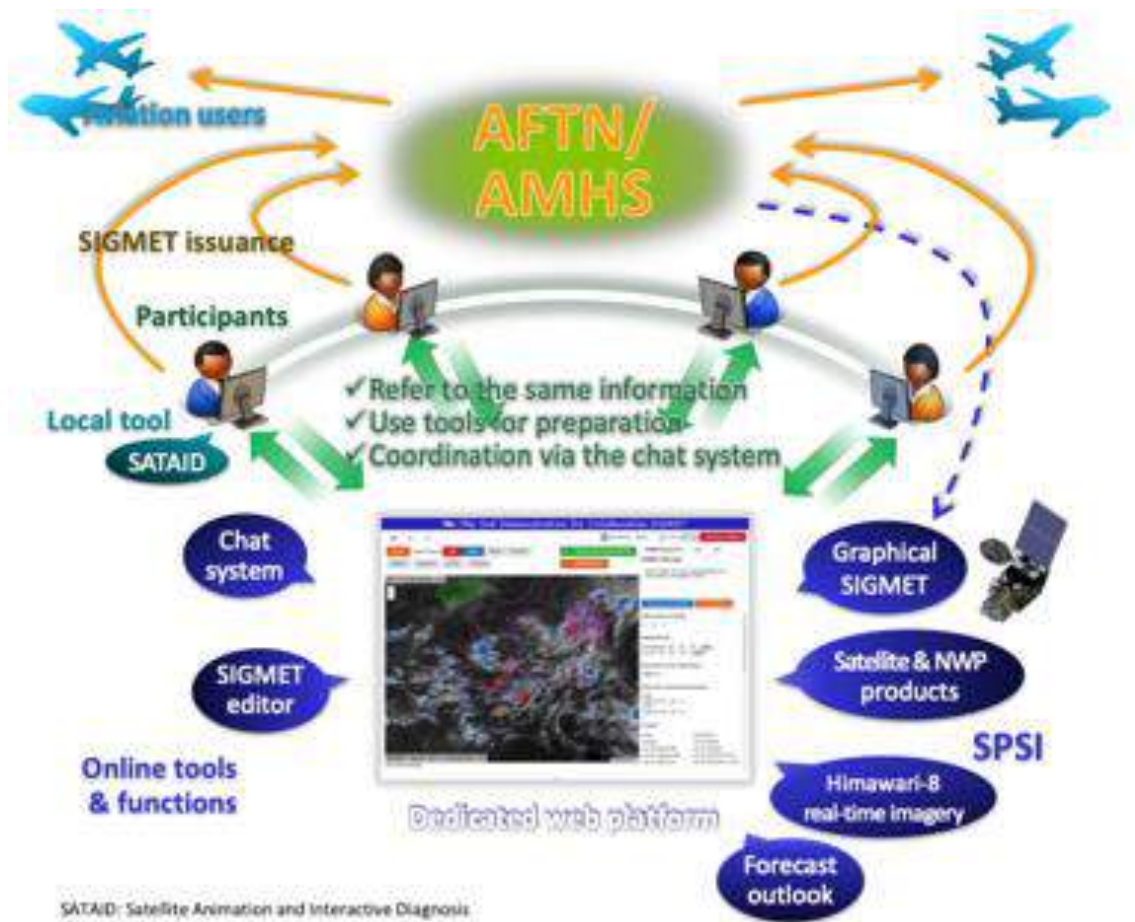


Figure 1 Overview of the CSI procedures