International Civil Aviation Organization

INFORMATION PAPER

Nineteenth Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/19)

Virtual meeting, 22 to 24 March 2021

Agenda Item 4: Meteorological information exchange in digital form

STATUS OF IWXXM IMPLEMENTATION IN SINGAPORE

(Presented by Singapore)

SUMMARY

This paper presents an update on Singapore's status in the implementation of the ICAO Meteorological Information Exchange Model (IWXXM).

1. INTRODUCTION

1.1 Amendment 79 to Annex 3 – *Meteorological Service for International Air Navigation* (applicable 5 November 2020) requires States to disseminate METAR/SPECI, TAF, AIRMET, SIGMET, and where applicable, Volcanic Ash, Tropical Cyclone, and Space Weather Advisories, in IWXXM GML form.

1.2 This paper provides an update on Singapore's progress in the implementation of IWXXM. The implementation of IWXXM involves the Meteorological Service Singapore (MSS) as the data producer, aggregator and translator, and the Civil Aviation Authority of Singapore (CAAS) which operates the communication centre.

2. DISCUSSION

Upgrading of Singapore's Communication and Message Switching Systems

2.1 Singapore has been upgrading its communication and message switching systems as part of continuous improvement efforts to efficiently support international data exchange. In March 2019, the CAAS upgraded its AMHS routing applications. In October 2020, MSS upgraded its Message Switching System to enable the processing and exchange of IWXXM over AMHS.

IWXXM Implementation in Singapore

2.2 Prior to the operationalisation of IWXXM exchange, Singapore conducted a series of intra/inter-regional tests with various Regional OPMET Centres (ROCs) including Bangkok, Brisbane, Jakarta, Kuala Lumpur, London and Tokyo. These tests were beneficial in identifying enhancements required, as well as to provide the assurance that the data exchange could be operationalised smoothly.

2.3 On 5 November 2020, Singapore commenced the operational dissemination of its OPMET data (METAR, SIGMET) in IWXXM to the ROCs of Bangkok, Brisbane, Hong Kong China and Kuala Lumpur. The dissemination of the Singapore OPMET data was based on the current routes used for the corresponding TAC messages.

2.4 Since 5 November 2020, Singapore had also commenced routing of IWXXM messages received from other centres as part of its RODB and IROG functions. As the implementation of IWXXM exchange was relatively new, a careful approach was adopted. To avoid potential bottlenecks in dissemination and routing, IWXXM message routes were progressively configured (as opposed to a direct migration in full TAC from) taking into consideration the availability of testing with the different centres, the messages received from IWXXM Producing Centres, and the readiness of the destination Centre to receive IWXXM messages.

Next Stage in the Translation and Generation of IWXXM Message

2.5 Singapore will continue to conduct data exchange tests with ROCs and NOCs to support the full operationalisation of IWXXM exchange in the region.

2.6 Singapore is currently using translation as the primary mode of IWXXM message generation. Messages translated are routinely monitored to ensure that initial issues with the translation can be highlighted and resolved. Generation from source will be progressively implemented when the respective systems generating the data are upgraded.

3. ACTION BY THE MEETING

3.1 Note the information contained in this paper.

– – – – – – – – – – – – – –