



ICAO

**Thirty First Meeting of the Asia/Pacific Air Navigation
Planning and Implementation Regional Group
(APANPIRG/31)**

Video Teleconference - Bangkok, Thailand, 14 to 16 December 2020

Schedule: 10:00 – 13:15 Bangkok Time [UTC+7hrs]

**Agenda Item 3: Performance Framework for Regional Air Navigation Planning and
Implementation**

3.5 MET

CURRENT STATUS AND PLAN OF IWXXM IMPLEMENTATION IN INDONESIA

(Presented by Indonesia)

SUMMARY

This paper presents the progress and plan for the implementation of Meteorological Information Model (IWXXM) for the exchange of OPMET in Indonesia.

Strategic Objectives:

A: Safety – Enhance global civil aviation safety

B: Air Navigation Capacity and Efficiency — Increase the capacity and improve the efficiency of the global aviation system

1. INTRODUCTION

1.1 The ICAO Annex 3 (Amendment 78) provision requires that OPMET data shall be disseminated in the IWXXM XML/GML form.

1.2 With regards to the implementation of IWXXM for digital OPMET exchange, BMKG as a meteorological service provider and AirNav Indonesia as an air navigation service provider, in close coordination with DGCA of Indonesia, have progressed some initial efforts since early 2019. The national trial on the exchange of IWXXM messages using a newly-established system between respective agencies' clients was conducted in February 2020.

2. DISCUSSION

Initial Preparation

2.1 BMKG has developed in-house software to convert OPMET data to the IWXXM format 3.0. The migration from current TAC forms to IWXXM formatted messages to enables the data receipt in the AMHS. OPMET data produced and disseminated by meteorological stations in TAC forms will be converted to IWXXM forms, using in-house software, in the upgraded BMKG's server which is planned to be located in the Regional OPMET Center.

2.2 Generated IWXXM data was validated using the validator provided in the NCAR’s GitHub page (<https://github.com/NCAR/crux>). This process, at once, was aimed to ensure that the data converted to XML form to the IWXXM format.

IWXXM data exchange Trial

2.3 Indonesia has conducted the national IWXXM data exchange trial on 14 February 2020. The testing successfully transferred IWXXM data between 2 (two) User Agents via AMHS located in the regional OPMET center (WIII). Data transfer was performed using the AMHS protocol. A stress load test was also applied in the trial which was divided into 3 (three) stages; 100 data, 200 data, and 400 data, which were sent to the agent in parallel. The User-Agent received all complete data in all stages orderly. The trial result is that the system worked well in national IWXXM messages exchange.

2.4 After the national trial, Indonesia has conducted the regional IWXXM data exchange trial with RODB Singapore on 12 November 2020. In this trial, Indonesia succeeded in sending OPMET data in IWXXM format 3.0 and successfully received by RODB Singapore with a transmission scheme via body part. Meanwhile, RODB Singapore can only send OPMET data in a .gz extension file attachment without a subject and body part. Thereby Indonesia will evaluate the OPMET data reception system with a .gz extension file referring to the document “Guidelines for The Implementation of OPMET Data Exchange Using IWXXM (Third Edition May 2019 and Fourth Edition November 2020)”.

2.5 In the initial trial shows that Indonesia's success to transmit IWXXM data to RODB using body part but IWXXM data using attachment of .gz file without a subject and body part from Singapore was rejected. Indonesia seeks to reconfigure the system to be readable to a .gz file. Accordingly, Indonesia relay to send IWXXM data in a .gz file in the local environment between 2 user agents after reconfiguration. The .gz file was received successfully. Afterward, Singapore resend back IWXXM data in a .gz file through attachment but the data was still rejected.

Plan

2.6 Indonesia will prepare the X.400 protocol for the IWXXM dissemination system at the Regional OPMET Center - Indonesia.

2.7 In order to meet the requirement Indonesia will investigate data exchange failures received from Singapore.

3. ACTION BY THE MEETING

3.1 The meeting is invited to :

- a) Note the information contained in this paper; and
- b) Discuss any relevant matters as appropriate.