

International Civil Aviation Organization

FIFTEENTH MEETING OF THE ASIA/PACIFIC METEOROLOGICAL INFORMATION EXCHANGE WORKING GROUP (MET/IE WG/15)

Bangkok, Thailand, 20 – 22 March 2017

Agenda Item 4: Meteorological information exchange in digital form

STATUS AND PLANS FOR IMPLEMENTATION OF IWXXM IN INDIA (Presented by India)

SUMMARY

This paper presents an overview of the plans for the implementation of digital transmission of meteorological information and in particular the IWXXM format in India. Porting of Doppler weather Radar for ATM automation is also discussed.

1. INTRODUCTION

1.1 OPMET data exchange in Extensible Mark-up Language (XML) in addition Traditional Alphanumeric Code (TAC) form was adopted vide amendment 77 to ICAO Annex 3. The dissemination of tropical cyclone advisories (TCA) and volcanic ash advisories (VAA) in IWXXM was adopted by ICAO as a recommended practice in November 2016.

1.2 However, as IWXXM would be introduced as a standard in Annex 3 during 2018 as part of Amendment 78, it is presumed that its applicability date may be delayed till 2020.

1.3 This paper provides an update on the introduction of TCA in graphical form by TCAC, New Delhi and its online availability through online aviation meteorological briefing system (OLBS) for the global users and the plans for the implementation of IWXXM in India by 2018.

2. DISCUSSION

Tropical Cyclone Advisory in graphical form issued by TCAC, New Delhi

2.1 Hitherto, the TCA was issued by TCAC, New Delhi for tropical cyclones over Bay of Bengal and Arabian Sea in TAC form and in a graphical form for quick visualization by our online aviation meteorological briefing system (OLBS) users based on regional requirements (Fig. 1) since 2012. This graphics depicts observed and forecast track of the tropical cyclone, cone of numerical model prediction uncertainty besides the TCA in TAC as an inset. In view of planned changes to introduce graphical SIGMET advisories by ICAO, the TCAC, New Delhi started issuing TCA in graphical form with TCA in TAC as a pin-up within this graphical advisory since post-monsoon season (October – December 2016), (Fig. 2 to Fig. 5). Our OLBS users appreciate this facility as both graphical and text form advisory are readily available to them in a single image.

2.2 In view of the prevailing graphical form of TCA incorporating the TCA message as it is in TAC form, the TC SIGMET is continued to be issued by MWOs of India in the conventional TAC form only.

2.3 As Volcanic Ash Advisory (VAA) for Indian region is issued by VAAC, Darwin and VAAC Toulouse, if similar graphical advisory is issued by VAAC concerned and made available to India for which we can work out a convenient method, India shall upload the same in our OLBS for quick access by our users spread throughout the world.

Implementation of IWXXM in India

2.3 India exchanges the OPMET and other meteorological information, data and products through automatic message switching system(AMSS) installed at Chennai (VOMM), Delhi (VIDP), Guwahati (VEGT), Kolkata(VECC), Mumbai (VABB) and Nagpur (VANP). The most widely used AMSS at Chennai, Delhi, Kolkata and Mumbai are being replaced by new ones for which action has already been initiated. It is expected that new AMSS at these 4 Metropolitan cities shall be installed during 2018. It has been planned to introduce the XML/ GML / IWXXM format based transmission / reception / processing in these new AMSS. On successful installation of new AMSS at these 4 metropolitan cities, India shall implement the IWXXM.

Data exchange for AFTM / ATM automation

2.4 As part of automation of air traffic management (ATM) and introduction of ATFM, India Meteorological Department (IMD) provides the OPMET and WAFS data besides satellite and Doppler Weather Radar (DWR) products (in the form of JPG / GIF images) to ATM system. In India, both multinational brands and indigenously developed DWRs are in operation. The DWR data is quite voluminous and each DWR vendor has got his own native data format besides globally acceptable format such as netcdf, hdf etc. However, the ATM automation vendors insists the DWR data flow to their automation system in their native format for which their software is comfortable in handling and processing but NOT the globally recommended netcdf or hdf format. As such, it has to be decided and recommended that DWR data can be portable to ATFM only in universally acceptable data format and not in any specific native format of ATM automation Software.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this papers;

b) decide on porting of DWR data in universal format; and

b) discuss any relevant matters as appropriate.



Fig. 1. TC ROANU... TCA based on 1200UTC/20May 2016. The observed and forecast track of the cyclone and cone of model based uncertainty can be seen.



Fig. 2 : TC NADA ... TCA based on 1200UTC/30 November 2016. The observed and forecast track and area of anticipated convective clouds along with TCA as an inset may be seen.



Fig. 3 : TC VARDAH ... TCA based on 0000UTC/10 December 2016. The observed and forecast track and area of anticipated convective clouds along with TCA as an inset may be seen.



Fig. 4 : TC VARDAH ... TCA based on 0000UTC/11 December 2016. The observed and forecast track and area of anticipated convective clouds along with TCA as an inset may be seen.

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Fig. 5: TC VARDAH ... TCA based on 1200UTC/10 December 2016. The observed and forecast track and area of anticipated convective clouds along with TCA as an inset may be seen.
