



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

Awareness workshop on the Roadmap of
Aeronautical Meteorological (MET)
Information in System-Wide Management
(SWIM)

(Virtual, 20 March 2024)

ICAO requirements for the exchange of OPMET data in digital format according to Model IWXXM

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Plan

- Introduction
- Overview of ICAO requirements for the exchange of OPMET data in IWXXM format
- Overview of the OPMET Data Banks IWXXM capabilities
- Documentation to support the transition to the IWWXM

Introduction

The exchange of OPMET data in ICAO IWXXM format was introduced as a **recommended practice by Amendment 77-A to Annex 3** to the Chicago Convention (Divisional MET Meeting (2014)), **made mandatory by Amendment 78 to Annex 3**, and **applicable by Amendment 79 from November 2020**.

The exchange of OPMET data in IWXXM format will be based on the implementation of AMHS (ATS Message Handling System) coupled with the FTBP (File Transfer Body Part) functionality to ensure the transfer of attached files.

This presentation provides an update on the requirements for exchanging OPMET data in ICAO IWXXM format.

**AMD 77-A at A3
(2016)
Meteorology
Meeting (MET) at
Division level
(2014)**

ICAO requirements for the exchange of OPMET data in IWXXM format

- Introduction of the digital format as a recommended practice for:
 - **volcanic ash advisories;**
 - **tropical cyclone advisories :**
 - **AIRMET information;** as well as
 - communication of **METAR/SPECI, TAF and SIGMET information**

AMD 78 at A3
(20th edition)
(METP/2; AIS-
AIMSG/12;
Secretariat)

ICAO requirements for the exchange of OPMET data in IWXXM format

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- Changes to the representation of information according to the IWXXM model;
- The IWXXM format became a **standard as of 5 November 2020** with the **applicability through Amendment 79 to Annex 3** for the following TAC products: SIGMET, AIRMET, METAR, SPECI, TREND, TAF, VAA, TCA and SWXA.

AMD 78 to A3
(METP/2) & AMD
79 to A3 (METP/4)

A3 App.2: §3.1
Advisory
information
concerning
volcanic ash

ICAO requirements for the exchange of OPMET data in IWXXM format

- *3.1.2 Recommendation.— Until 4 November 2020, volcanic ash advisory information should be disseminated in IWXXM GML form in addition to the dissemination of this advisory information in accordance with 3.1.1.*
- *3.1.2 STD. – As of 5 November 2020, volcanic ash advisory information shall be disseminated in IWXXM GML form in addition to the dissemination of this advisory information in accordance with 3.1.1.*

**AMD 78 to A3
(METP/2) & AMD
79 to A3 (METP/4)**

**A3 App.2: §5.1
Advisory
information
concerning
tropical cyclones**

ICAO requirements for the exchange of OPMET data in IWXXM format

- *5.1.3 Recommendation.— Until 4 November 2020, tropical cyclone advisory information should be disseminated in IWXXM GML form in addition to the dissemination of this advisory information in accordance with 5.1.2.*
- **5.1.3 STD. – As of 5 November 2020, tropical cyclone advisory centres shall disseminate tropical cyclone advisory information in IWXXM GML form in addition to the dissemination of this advisory information in abbreviated plain language in accordance with 5.1.2**

AMD 78 to A3
(METP/2) & AMD
79 to A3 (METP/4)

A3 App.2: §6.1
Space weather
advisory
information

ICAO requirements for the exchange of OPMET data in IWXXM format

- *6.1.2 Recommendation.— As of 7 November 2019 and until 4 November 2020, space weather advisory information should be disseminated in IWXXM GML for, in addition to the dissemination of space weather advisory information in abbreviated plain language in accordance with 6.1.1.*
- **6.1.2 STD. –** As of 5 November 2020, space weather advisory information shall be disseminated in IWXXM GML form, in addition to the dissemination of this advisory information in abbreviated plain language in accordance with 6.1.1

AMD 78 to A3
(METP/2) & AMD
79 to A3 (METP/4)

A3 App.3: §2.1
Weather
observation
messages

ICAO requirements for the exchange of OPMET data in IWXXM format

- *2.1.3 Recommendation.— Until 4 November 2020, METAR and SPECI should be disseminated in IWXXM GML form in addition to the dissemination of the METAR and SPECI in accordance with 2.1.2.*
- **2.1.3 STD. – As of 5 November 2020, METAR and SPECI shall be disseminated in IWXXM GML form in addition to the dissemination of the METAR and SPECI in accordance with 2.1.2.**

AMD 78 at A3
(METP/2) & AMD
79 at A3 (METP/4)

A3 App.5: §1.1
Terminal Area
Weather Forecast
(TAF)

ICAO requirements for the exchange of OPMET data in IWXXM format

- 1.1.2 **Recommandation.**— *Jusqu'au 4 novembre 2020, il est recommandé que les TAF soient diffusées dans un format conforme au modèle IWXXM GML en plus d'être diffusées comme il est prescrit au § 1.1.1.*
- 1.1.2 **STD.** – À compter du 5 novembre 2020, les TAF seront diffusées dans un format conforme au modèle IWXXM GML en plus d'être diffusées conformément au § 1.1.1.

AMD 78 to A3
(METP/2) & AMD
79 to A3 (METP/4)

A3 App.6: §1.1

SIGMET
Messages

ICAO requirements for the exchange of OPMET data in IWXXM format

- *1.1.6 Recommendation.— Until 4 November 2020, SIGMET information should be disseminated in IWXXM GML form in addition to the dissemination of SIGMET information in accordance with 1.1.1.*
- **1.1.6 STD. – As of 5 November 2020, SIGMET information shall be disseminated in IWXXM GML form in addition to the dissemination of SIGMET information in accordance with 1.1.1.**

AMD 78 to A3
(METP/2) & AMD
79 to A3 (METP/4)

A3 App.6: §2.1

AIRMET
Messages

ICAO requirements for the exchange of OPMET data in IWXXM format

- *2.1.6 Recommendation.— Until 4 November 2020, AIRMET information should be disseminated in IWXXM GML form in addition to the dissemination of AIRMET information in accordance with 2.1.1.*
- **2.1.6 STD. – As of 5 November 2020, AIRMET information shall be disseminated in IWXXM GML form in addition to the dissemination of AIRMET information in accordance with 2.1.1.**

AMD 78 to A3
(METP/2) & AMD
79 to A3 (METP/4)

A3 App.8: §2.2

Significant
weather
Information

ICAO requirements for the exchange of OPMET data in IWXXM format

- *2.2.2 Recommendation.— As of November 4, 2021, significant weather information provided by the WAFCs for flight planning and in-flight replanning should be disseminated in a format complying with the IWXXM GML model in addition to be distributed in the form prescribed in § 2.2.1*

STDs relating the exchange of OPMET data in Digital Format

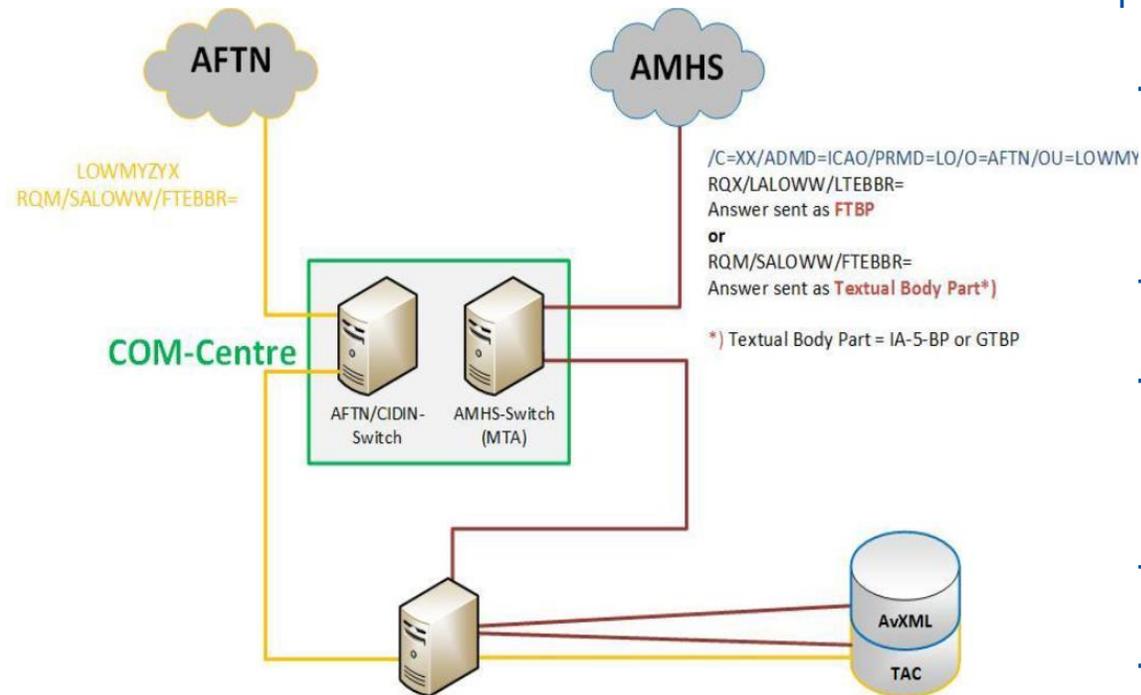
Provisions of Annex 3 to CC, 20th Edition in summary

- The OPMET data exchange in ICAO IWXXM format was introduced by Amendment 76 to ICAO Annex 3, made mandatory by Amendment 78 to ICAO Annex 3 and applicable by Amendment 79 from November 2020.

OPMET Data	Annex 3 STD
VAA, TCA, SWXA METAR, SPECI, TAF SIGMET, AIRMET, SIGWX	Applicability date: As of 5 November 2020 , except for provisions related to the dissemination of significant weather (SIGWX) forecasts in IWXXM GML form, which are indicated as of 4 November 2021

International OPMET data bank with TAC and IWXXM capabilities

RODB Dakar



RODB with **capabilities to receive** OPMET data in IWXXM format generated by associated BCCs/NOCs/Conversion Centers and **exchange** them with associated RODBs/IROGs



BRDO with capabilities to **process queries for OPMET data in TAC format**

“**RQM/**” is used as the start of a query line



BRDO with capabilities to **process OPMET data in IWXXM format on queries**

“**RQX/**” is used as the start of a query line



Interface Control Document (ICD) containing Procedures to access AFI Region OPMET Database Access **update to date**

**Requirements
for transition to
IWXXM format**

**Documentation
to support the
transition**

Exigences OACI relatives à la mise en œuvre du IWXXM

- **Annex 3 ICAO – Meteorological Service for International Air Navigation**
- **Doc 10003 – ICAO Weather Information Exchange Model (IWXXM) Manual.**
- **Doc 9880 – Guidelines for the implementation of IWXXM in the AFI Region.**
- **AMBEX Manual – AFI Weather Bulletin Exchange System Manual**
- **AFI AMHS Manual**
- **WMO-No. 386 – Manual of the global telecommunications system.***
- **WMO-No. 306 – Volume I.3, Part D — Representations derived from data models**
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Thank You!