



*International Civil Aviation Organization*

**ICAO**

**Eighteenth Meeting of the ICAO Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF/18)**

Bangkok, Thailand, 19 – 23 June 2023

---

## **Agenda Item 4: AIS-AIM Updates**

### **DIGITAL NOTAM SERVICE BASED ON THE SWIM IN JAPAN**

(Presented by JAPAN)

#### **SUMMARY**

This paper presents information service related to Aeronautical information based on the SWIM in Japan.

## **1. INTRODUCTION**

1.1 In previous meetings, we have shared the efforts regarding AIM and digital NOTAM implementation in Japan (AAITF14 IP04, AAITF17 IP09).

1.2 On March 23, 2023, Japan Civil Aviation Bureau (JCAB) published an AIC (009/23) announcing the introduction of services based on the SWIM concept. This IP provides overview of the information service regarding aeronautical information and current status for the service to be launched in 2025 1Q.

## **2. DISCUSSION**

### Outline

2.1 Services specific to aeronautical information are classified into two categories: Digital NOTAM and AIP. In addition, there are also Airport/Airspace profile services which provide integrated view of aeronautical information, weather, and flight operation.

### For Digital NOTAM

2.2 There are three types of service for Digital NOTAM: Registration, Distribution, and Request.

- a) The Digital NOTAM Registration Service is for originators. Originators can submit the NOTAM Request to AIS through a dedicated web service in a SWIM environment via the Internet.

The current NOTAM process is that an originator submits a plain-text NOTAM Request by telephone, fax, or e-mail, then AIS officers interpret the contents, assemble into a NOTAM, enter into a dedicated system, and publish as NOTAM. In the future, this Registration service will almost automatically assemble NOTAMs from the data entered by the originator.

The service will reduce the manual input work of AIS officers, as well as the human errors that may occur during the input process, and allow the officers focus on examining the contents, therefore it is expected to issue high-quality NOTAMs in a short period of time.

Also, the originators can submit accurate and prompt NOTAM Request by presetting and using appropriate templates in advance. Of course, procedures regarding NOTAMRs and NOTAMCs are concise too. In addition, the originators can check the status of NOTAM publication by using the status viewer function any time.

- b) Digital NOTAM Distribution Service is a function for users to obtain Digital NOTAMs in AIXM 5.1.1 format by Pub/Sub method. The digital NOTAM is suitable for editing, processing, analyzing and drawing on the user side for their purpose.
- c) Digital NOTAM Request Service provides a function for users to browse NOTAMs on web browser and to retrieve Digital NOTAMs by using Web-API with specifying query criteria. The result will be displayed graphically on web browser, allowing users who do not have dedicated systems, to easily check valid NOTAMs without additional cost.

#### For AIP

2.3 Three types of services for AIP: data distribution, file download, and browsing.

- a) AIP Data Distribution Service is to distribute dataset in an AIXM format on AIRAC cycle by Pub/Sub method based on an agreement with users who request to subscribe this service. We have started this year to prepare initial data in accordance with Business Rules available on the AIXM Web site (<https://aixm.aero>).
- b) AIP File Download Service provides AIPs in PDF format. Since the AIP-Japan consists of more than 1,800 PDF files, this service is essential for users to have AIP on hand so that they can refer the AIP at any time, even in the event of a web failure.
- c) AIP Browsing service is to provide the function to browse AIPs on the web. Similar to the Digital NOTAM Request service, this service will support users who do not have a dedicated system.

#### Providing complex Information

2.4 Airspace/ Airport profile services provides integrated map view by utilizing a geospatial information system (GIS) that overlays information on weather, flight operations in addition to aeronautical information including routes and airports.

#### Progress and Challenges in JAPAN

2.5 For AIS to AIM implementation, it will become increasingly important that AIS officers as those who control and manage the data flow, and the originator as the starting point of the data chain.

2.6 Internal evaluation will begin in the fall of this year, and related projects such as training for AIS staff, education to originators, data migration, and service guidance to users are also underway in preparation for the service launch in 2025 1Q. What we find difficult through the project is;

- a) AIXM is evolving (upgrading) day by day.
  - We have to find the best solution whether it should be applied or not within a constantly evolving set of rules.

- b) Data quality control needs to be strengthened.
  - It is important to ensure data accuracy and resolution so it must be reviewed the process to handle data through the correct process.
- c) Utilization of GIS
  - AIXM is characterized by the use of GML, an ISO international standard that is expected to be widely used to exchange geographic information data. AIS officers should become familiar with GML and GIS.

### **3. CONCLUSION**

3.1 SWIM-based information infrastructure will enable Aeronautical Information Services to provide aeronautical data, Digital NOTAM, and integrated view in addition to traditional aeronautical information presentation, and contribute to improve usability and user situational awareness. It will also reduce the burden on originators and Aeronautical Information Services, while at the same time contributing to increased efficiency and reduced errors.

3.2 However, there are many challenges to be solved, including evolving data format and data quality control. We would like each state where AIM is being implemented to share more and more about the challenges and best practices that are arising in their states to facilitate the transition to AIM in the Asia-Pacific region.

### **4. ACTION BY THE MEETING**

- 4.1 The meeting is invited to:
- a) note the information contained in this paper; and
  - b) discuss any relevant matters as appropriate.

.....