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## Advisory Circular

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# **AIS/MAP PERSONNEL ADEQUACY, COMPETENCY, EXPERIENCE AND FACILITIES**

## **1. PURPOSE**

This Advisory Circular (AC) provides guidelines on the standard procedures for determining the required personnel adequacy, competency experience and, facilities including equipment necessary for the provision of Aeronautical Information Services and charts (AIS/MAP).

## **2. REFERENCES**

- 2.1. Civil Aviation Requirements Part VII & VIII
- 2.2. Doc 8126 - AIS Manual
- 2.3. Doc 7192 - Part E3 AIS training manual
- 2.4. Human Resource Manual
- 2.5. Doc 8697 - Aeronautical Chart Manual

## **3. GUIDANCE AND PROCEDURES**

### **3.1 General**

3.1.1 The objective of AIS is to ensure the flow of information necessary for the safety, regularity and efficiency of international air navigation. The role and importance of aeronautical information/data changed significantly with the implementation of area navigation (RNAV), required navigation performance (RNP) and airborne computer-based navigation systems.

3.1.2 Corrupt or erroneous aeronautical information/data can potentially affect the safety of air navigation. To satisfy the uniformity and consistency in the provision of aeronautical information that is required for the operational use by computer-based navigation systems, ANSPs must ensure high standards in recruitment and training of personnel.

3.1.3 Increasing emphasis should be placed on quality systems and data management, in addition to the "traditional" skills. In order to satisfy these fundamental criteria, it is essential for the ANSP to determine the knowledge and skill requirements and prescribe a training programme for AIS/MAP technical officers engaged in the provision of aeronautical information services and aeronautical charts. The programme should include initial, OJT, recurrent and refresher training.

3.1.4 The Facilities and services shall also satisfy the need for uniformity and consistency in the provision of a broad range of aeronautical charts that contain appropriate information of defined quality.

### **3.2 Recruitment**

The recruitment procedure shall be as prescribed in the manual of human resource on recruitment and training.

### **3.3 Training, Experience and Competency**

3.3.1 The following trainings/experience/competency shall be undertaken by the personnel:-

- a) AIS Course
- b) Aeronautical Cartography Course

- c) On-the-job training for AIS
- d) On-the-job training for Aeronautical Cartography
- e) AIS Periodical check within unit
- f) Cartography Periodical check within unit
- g) IT trainings for AIS and Cartography
- h) AIM Database, publication and Charting
- i) Quality Management Systems
- j) ICAO PANS – OPS Instrument Procedures Design Courses:
  - i) General Criteria and Conventional Procedures
  - ii) Criteria for RNAV, GNSS and RNP.

### 3.4 Duties and Tasks

3.4.2 When determining the scope and depth of skills required of AIS/MAP personnel, it is necessary to analyse the duties and tasks required of them. A summary of the principal tasks is provided in this section for necessary guidance.

3.4.2.1 **Aerodrome AIS Unit** – shall prepare and maintain briefing material;

- Prepare pre-flight information for aircrew and aircraft operators;
- Provide face to face briefing to aircrew and aircraft operators;
- Operate remote briefing equipment;
- Maintain briefing office displays and wall charts;
- Clarify publications;
- Provide in-flight information to air traffic control;
- Receive post-flight information from aircrew and take appropriate action;
- Maintain AIS/MAP library of reference material; and
- Provide on the job training.

3.3.2.2 **International NOTAM Office (NOF)** – shall collect, collate and verify NOTAM information;

- Originate NOTAM;
- Receive and re-distribute incoming NOTAM;
- Maintain NOTAM database;
- Prepare and issue trigger NOTAM;
- Originate and maintain NOTAM checklists; and
- Prepare and issue list of valid NOTAM.

3.3.2.3 **AIS/MAP Publication, Editing and Text producing** - shall Operate the desk-top publishing system;

- Prepare, edit and compile the Aeronautical Information Publication (AIP), AIP Amendments, AIP Supplements, Aeronautical Information Circulars (AIC) and Checklists;
- Print and distribute elements of the Integrated Aeronautical Information Package (IAIP)(except NOTAM);

3.3.2.4 **AIS Cartography Unit** shall:-

- Collect and collate source data for preparation of aeronautical charts;
- Compile and prepare aeronautical charts, maps (and instrument procedures as required);
- Amend aeronautical charts, maps and instrument procedures;
- Pre-and post-press proofing;
- Prepare chart elements/material ready for printing.
- Maintaining quality records relating to amendments, including an audit trail of amendment data, source documents, plot, proofs and correction data for each chart;
- Maintain Standard Operating Procedures and Checklists.

3.4.3 Man Power requirement and accommodation

3.4.3.1 The manpower requirement for a particular AIS/MAP unit shall be considered on the following factors:-

- a) The volume of aircraft operations;
- b) Extent to which civil aviation facilities are provided;
- c) Amount of information to be processed;
- d) Hours of service/watch;
- e) The level of automation of the AIS/MAP systems.

3.4.3.2 A general guidance as to the minimum requirements for AIS/MAP staff and accommodation is given in the table below.

|   |                                  | <i>Technical Staff</i>   | <i>Clerical Staff</i> | <i>Space in square feet</i> |      |
|---|----------------------------------|--------------------------|-----------------------|-----------------------------|------|
| 1 | AIS Headquarters                 | 3                        | 3-6                   | 300 - 1000+                 |      |
| 2 | International NOTAM Office (NOF) | 5-6                      | 3                     | 300 - 400                   |      |
| 3 | AIS Cartography unit             | 4                        | 2                     | 150                         |      |
| 4 | Aerodrome AIS unit               | Major airport (24 hours) | 5-6                   | 5-6                         | 300+ |
| 5 |                                  | Airport (limited hours)  | 2+                    | 2+                          | 150  |

### 3.5 Facilities and Equipment

The following minimum facilities and equipment, in addition to the basic office furniture and stationary should be provided for the AIS headquarters and each NOF and aerodrome AIS unit:-

#### 3.5.1 AIS headquarters

- a) personal computers (PCs) for each post, printer and connection to the internet;
- b) photocopying equipment;
- c) teletypewriter terminal (AFS/AFTN connections);
- d) telephones and telefax equipment;
- f) clock;
- g) ample office space;
- h) email;
- i) file cabinets for the AIS/MAP technical library;
- j) office stationary;
- k) publishing and distribution accessories.

#### 3.5.2 International NOTAM Office (NOF) and Aerodrome AIS unit

- a) adequate table/counter space for processing information;
- b) adequate filing index system;
- c) full teletypewriter service (receive and transmit) linked to the AFS;
- d) PC/computer terminal, printer, connection to the internet and typewriter (*if necessary*);
- e) photocopier for pre-flight bulleting production;
- f) telephone and telefax equipment (*if necessary*);
- g) a reliable clock and, for the NOF, a time-stamp clock, both showing UTC and, where appropriate, a second clock showing local time;
- h) reference charts and documents required for consultation and pre-flight briefing.

#### 3.5.3 AIS Cartography unit

In addition to the facilities required at AIS H.Q the following facilities shall be made available:-

- a) Software for production of Aeronautical Charts *e.g.* GeoMedia.
- b) Equipment for production of Aeronautical Charts *e.g.* plotter, printer and scanner.

### 3.6 Other Provisions

DCA shall:

- a) develop written terms of reference for AIS and Cartographic technical staff;
- b) develop a training programme for AIS and Cartographic technical staff;
- c) maintain training records or files for AIS and Cartographic technical staff;
- d) take reasonable measures to ensure that the information it provides and the aeronautical charts made available are adequate and accurate and that they are maintained up to date by an adequate revision service;
- e) publish aeronautical charts as per the requirements of respective manual and make them readily available to users.