



Advisory

Circular

UCAA-AC-AIM006

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GUIDANCE ON IMPLEMENTATION OF FORMAL ARRANGEMENTS BETWEEN AERONAUTICAL DATA OR INFORMATION ORIGINATORS AND AIS.

1.0 PURPOSE

This Advisory Circular (AC) provides information and guidance on establishing and implementing formal arrangements between originators of aeronautical data or aeronautical information and the aeronautical information service provider (AISP) so as to ensure externally-sourced information conforms to applicable data quality requirements.

2.0 REFERENCE

- 2.1. Regulation 7 of The Civil Aviation (Aeronautical Information Services) Regulations, 2022
- 2.2. Regulation 19 of The Civil Aviation (Aeronautical Charts) Regulations, 2022
- 2.3. ICAO Doc 10066 – PANS AIM
- 2.4. ICAO Doc 8126 – AIS Manual

3.0 GUIDANCE AND PROCEDURES

3.1. Background

- 3.1.1. Regulation 7 of The Civil Aviation (Aeronautical Information Services) Regulations, 2022, require that formal arrangements are established between originators of aeronautical data or aeronautical information and the AISP in relation to the timely and complete provision of aeronautical data and aeronautical information.
- 3.1.2. The need, role and importance of aeronautical information/aeronautical data have changed significantly with the evolution of the Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM) systems. The implementation of area navigation (RNAV) alongside required navigation performance (RNP) and airborne computer-based navigation systems have brought about exacting requirements for the quality (accuracy, resolution, integrity, traceability, timeliness, completeness, and format) of aeronautical information/aeronautical data.
- 3.1.3. This change has necessitated the requirement for formal arrangements in the form of a Service Level Agreement (SLA) to be signed between the AISP and the originator(s) of aeronautical data or aeronautical information (such as aerodromes, air traffic service providers, instrument flight procedure and airspace designers, meteorological service providers and other AISPs) in relation to the timely and complete provision of aeronautical data and/or aeronautical information. The SLA documents the agreed provision of service for the supply of aeronautical data and/or aeronautical information by the Data Originator to the AISP and the agreed standards to which the said aeronautical data or aeronautical information shall be published by the AISP.

3.1.4. Data originators may be both internal and external to the AIS organization. Formal arrangements with external originators should be formalized through written agreements. Formal arrangements between different units within the same organization (e.g. between procedure design and AIS of an air navigation service provider) can be established as part of the management system of the organization.

3.2. Scope of aeronautical data or aeronautical information subject to formal arrangements

3.2.1. The aeronautical data and/or aeronautical information received from the originator(s) to be managed by the AIS shall include at least the following sub-domains:

- a) National regulations, rules and procedures
- b) Aerodromes and heliports
- c) Airspace
- d) Air Traffic Services (ATS) routes
- e) Instrument flight procedures
- f) Radio navigation aids/systems
- g) Obstacles
- h) Terrain; and
- i) Geographic information.

3.3. Aeronautical data/information originators

3.3.1. The identification of data originators should be documented by the AISP based on the scope of aeronautical data and/or aeronautical information to be collected. Information regarding infrastructure operational status often comes from a different originator than the information about its physical characteristics. Therefore, originators of operational status information of aeronautical features should be identified and added to the list of authorized originators. Formal arrangements with these originators assure the expeditious publication of a NOTAM in case of disruption of the service.

3.3.2. The AISP should maintain a record of such data originators. The AISP should map each data element to be collected to an identified data originator, in accordance with the formal arrangements established between data originators and the Aeronautical Information Service (AIS).

3.3.3. The list of aeronautical information subjects and their properties, as contained in Schedule 1 of the Civil Aviation (Aeronautical Information Services) Regulations, 2022, should be used to establish formal arrangements between the originators and the AIS. Valid codes for the code lists of the aeronautical data properties and sub-properties, as contained in Schedule 1 of the Civil Aviation (Aeronautical Information Services) Regulations, 2022, should be defined in the formal arrangements between the originators and the AIS.

3.3.4. Similarly, the contents of the AIP provide the basis of the formal arrangements with data originators, mainly in relation to the State authorities responsible for facilitation and air navigation services, e.g. entry, transit and departure of aircraft/passengers/crew/cargo, meteorology (MET), air traffic services (ATS), communication, navigation, and surveillance (CNS) and search and rescue (SAR) services.

3.3.5. To assure that metadata is collected for data origination, the metadata requirements should be part of the formal arrangements between the AIS and the data originator(s).

3.4. Contents of a Service Level Agreement (SLA)

3.4.1. Formal arrangements should contain at a minimum:

- a) Regulatory framework. The Formal arrangements should define the relevant regulations and standards for the origination of aeronautical data provided in the Regulations and other guidance material for the data origination should be included in the formal arrangements.
- b) Data origination. The data to be originated must be clearly specified with respect to scope and quality. The Aeronautical Data Catalogue should be used as a reference for the specifications of data to be originated. The valid codes for data elements should be defined in the formal arrangements according to the data catalogue
- c) Quality assurance. Data origination is an important process with respect to data quality since subsequent processing cannot improve quality but only maintain, or even degrade it. Therefore, the data originator must have verification and validation processes in place to assure the required data quality is achieved. Data origination and validation methods should be commensurate with the integrity classification of the data. Whenever possible, critical data should be processed digitally without manual interaction.
- d) Metadata and quality reporting. Since metadata is an important source of information for the verification, validation and understanding of the data, the formal arrangement must include provisions concerning what metadata the originator has to record and provide to the AIS. The metadata can be distributed as structured data (based on ISO Standards 19115 and 19139) or be provided as textual information in the quality report.
- e) Data distribution (including format). The formal arrangement should include, as a minimum, the following provisions:
 - i. details of the organization to which the data has to be distributed;
 - ii. the means of distribution (namely, aeronautical data and aeronautical information should be distributed in digital format via electronic transfer, or by direct input into the automated AIM system;
 - iii. the format of the data and metadata; and
 - iv. the date and time by which the data has to be distributed.
- f) Error handling. The formal arrangement should include provisions on how data errors and inconsistencies are handled and corrected by the originator and by the AIS in the event that a data error or inconsistency is discovered before, as well as after, the data has been published.

3.4.2. In developing a formal arrangement such as an SLA between the various aeronautical data and/or aeronautical information originator(s) and the AISP, the agreement(s) should contain but not be limited to the following content:

1. INTRODUCTION
 - 1.1. Scope
 - 1.2. Parties to the agreement
 - 1.3. Regulatory requirements
 - 1.4. Entry into force and termination
 - 1.5. Definitions and conventions
2. DATE PROVISION SERVICE
 - 2.1. Service description
 - 2.2. Data management
 - 2.3. Demonstrating compliance
 - 2.4. Data errors or inconsistencies
 - 2.5. Contingency

3. PROCEDURE PROVISIONS

3.1. Entire agreement

3.2. Liaison

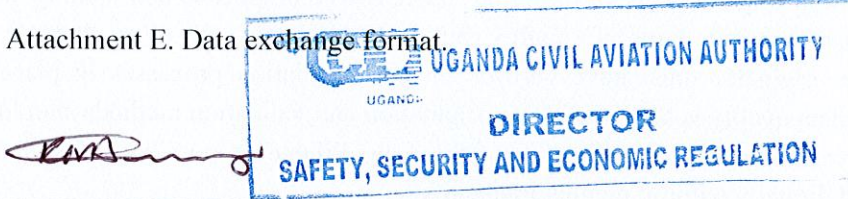
Attachment A. Aeronautical data and aeronautical information to be provided.

Attachment B. Timeliness requirements.

Attachment C. Metadata requirements.

Attachment D. Data distribution.

Attachment E. Data exchange format.



Director Safety, Security and Economic Regulation.