

**CIVIL AVIATION REGULATIONS**

**SURINAME**

**PART 20 - AERONAUTICAL INFORMATION SERVICES**

**VERSION 2.0**

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## Contents

<b>20.1 PRELIMINARY PROVISIONS</b> .....	<b>3</b>
20.1.1 Introduction .....	3
20.1.2 Common reference systems for air navigation .....	8
20.1.3 Miscellaneous specifications .....	10
<b>20.2 RESPONSIBILITIES AND FUNCTIONS</b> .....	<b>10</b>
20.2.1 State Responsibilities .....	10
20.2.2 AIS Responsibilities and Functions .....	11
20.2.3 Exchange of aeronautical information/data .....	12
20.2.4 Copyright .....	13
20.2.5 Cost recovery .....	13
<b>20.3 AERONAUTICAL INFORMATION MANAGEMENT</b> .....	<b>13</b>
20.3.1 Information management requirements .....	13
20.3.2 Data quality specifications .....	13
20.3.3 Aeronautical data and aeronautical information verification and validation .....	14
20.3.4 Data error protection .....	15
20.3.5 Use of automation .....	15
20.3.6 Quality management system .....	15
20.3.7 Human factors considerations .....	16
<b>20.4 SCOPE OF AERONAUTICAL DATA AND AERONAUTICAL INFORMATION</b> .....	<b>16</b>
20.4.1 Scope of aeronautical data and aeronautical information .....	16
20.4.2 Metadata .....	17
<b>20.5 AERONAUTICAL INFORMATION PRODUCTS AND SERVICES</b> .....	<b>17</b>
20.5.1 General .....	17
20.5.2 Aeronautical information in a standardized presentation .....	17
20.5.3 Digital data sets .....	20
20.5.4 Distribution services .....	24
20.5.5 Pre-flight information service .....	24
20.5.6 Post-flight information service .....	25
<b>20.6 AERONAUTICAL INFORMATION UPDATES</b> .....	<b>25</b>
20.6.1 General specifications .....	25
20.6.2 Aeronautical information regulation and control (AIRAC) .....	25
20.6.3 Aeronautical information product updates .....	27
<b>20.7 AERONAUTICAL INFORMATION SERVICE PROVIDER TRAINING PROGRAM</b> .....	<b>30</b>
20.7.1 Training Program .....	30
20.7.2 Training Syllabus .....	30
20.7.3 Training Delivery and Assessment .....	31
20.7.4 Training Records .....	31
20.7.5 Refresher Training .....	31
20.7.6 On-going Training .....	31
20.7.7 Remedial Training .....	31
20.7.8 Qualifications of Trainers Checkers .....	31
<b>IMPLEMENTING STANDARD</b> .....	<b>IS-20-1</b>
IS: 20.7.1 Training Program .....	IS-20-2

## 20.1 PRELIMINARY PROVISIONS

### 20.1.1 INTRODUCTION

The object of the aeronautical information service is to ensure the flow of information/data necessary for the safety, regularity and efficiency of air navigation. The role importance of aeronautical information/data changed significantly with the implementation of area navigation (RNAV), performance based navigation (PBN), airborne computer based navigation systems and data link system. Corrupt, erroneous, late or missing aeronautical information/data can potentially affect the safety of air navigation.

#### 20.1.1.2 APPLICABILITY

This CARS Part prescribes the requirements for:

- (a) The operation of an organization or person providing an Aeronautical Information Service for the Republic of Suriname; and
- (b) For the Surinamese Integrated Aeronautical Information Package.
- (c) The Regulation in this CARS govern the application of the Procedures for Air Navigation Services – Aeronautical information Management PANS-AIM DOC 10066 and the Regional Supplementary Procedures –Aeronautical Information Services, contained in Doc 7030.
- (d) The Regulation shall be used in conjunction with PANS-AIM DOC 10066 , ICAO DOC 8126 and DOC 7030.

#### 20.1.1.3 PROVISION OF AIR NAVIGATION SERVICES (AIS)

##### 20.1.1.3.1 Requirements for the provision of air navigation services (AIS)

A person shall not provide air navigation services unless:

- (a) he is designated to do so or is approved by the CASAS issued under these regulations :and
- (b) the services are provided in accordance with:
  - (i) the requirements specified by the CASAS in the applicable CARS Parts or any other publication of the CASAS; and
  - (ii) the procedures specified in the Manual of Air Navigation Service Operations (MANSOPs).

##### 20.1.1.3.2 Application to provide air navigation services (AIS)

A person or company wishing to provide air navigation services (AIS) shall make an application in a form specified by the CASAS and such application shall be accompanied by:

- (a) the applicant's Manual of Air Navigation Service Operations (MANSOPs), provided under CARS Part 20.1.1.3.8.1 of these Regulations for approval;
- (b) a written statement setting out the services and locations at which they shall be provided;
- (c) the quality management system manual;
- (d) the procedures to meet the requirements of the Civil Aviation Regulations Suriname,
- (e) a written statement on financial capability to provide the service;
- (f) the insurance policy in force in relation to the services provided; and
- (g) fees as specified by the Authority.

## 20.1.1.3.3 Designation of Air Navigation Service Provider (AIS) and issuance of approval.

(1) The Authority shall, before issuing an approval, or designating an Air Navigation Service Provider (AIS), be satisfied that:

- (a) the personnel of the applicant are adequate in number and have the necessary competency to provide the service;
- (b) the MANSOPs prepared and submitted with the application contains all the relevant information;
- (c) the facilities, services and equipment are established in accordance with these Regulations;
- (d) the operating procedures make satisfactory provision for the safety of aircraft;
- (e) an approved quality management system is in place;
- (f) the applicant has approved procedures to meet the requirements of the Civil Aviation Regulations Suriname (CARS)
- (g) the applicant has financial capability to provide the service; and
- (h) the applicant has insurance policy in force in relation to the services provided.

(2) Subject to the CARS, the CASAS may set any other conditions as may be deemed necessary.

(3) The provision of air navigation services shall be subject to compliance with these Regulations and any other condition as may be specified or notified by the CASAS.

(4) The CASAS may refuse to permit any person or company or grant approval to an applicant, and where the CASAS refuses, it shall notify the person, company or applicant in writing, of the reasons for the refusal, not later than fourteen days after making that decision.

## 20.1.1.3.4 Format of approval.

Any approval shall be in written format and shall include the following information:

- (a) the ANSP's name and physical and mailing address of its principal place of business;
- (b) the type of services to be provided;
- (c) the location of services to be provided;
- (d) for air traffic service the service to be provided within a particular airspace or controlled aerodrome designated to the provider by the Authority;
- (e) conditions of approval; and
- (f) effective and expiry dates of the approval.

## 20.1.1.3.5 Transfer of designation or approval.

A designation or approval to provide air navigation services issued under these Regulations shall not be transferable.

## 20.1.1.3.6 Suspension, variation and cancellation of approvals

1) The CASAS may, suspend provisionally, pending further investigation, any approval issued under these Regulations, if it considers that

- (a) a relevant provision of these Regulations, or a condition in the certificate, has not been or is not being complied with;
- (b) false or materially incorrect information was given to the CASAS in the application for the approval; or
- (c) it is in the public interest to do so.

2) The CASAS may, upon the completion of an investigation which has shown sufficient ground to the Authority's satisfaction suspend, vary or cancel any approval issued under these Regulations.

## 20.1.1.3.7 Register of Air Navigation Services providers

(1) The CASAS shall keep and maintain a register showing:

- (a) name of the ANSP;
- (b) date of issue or renewal of the approval;
- (c) type of service offered by the ANSP;
- (d) expiry date of the approval;
- (f) date of variation, suspension or cancellation of the approval, if applicable;
- (g) physical and postal address of the holder of the ANSP; and
- (h) any other particulars as may be determined by the CASAS.

(2) Any changes in the particulars recorded shall be entered in the register by the CASAS.

(3) The register shall be a public document and any particular entered may be obtained upon payment of such a fee as may be specified by the CASAS.

## 20.1.1.3.8 MANUAL OF AIR NAVIGATION SERVICES OPERATIONS

## 20.1.1.3.8.1 Manual of Air Navigation Services Operations (MANSOPS).

1) The Manual of Air Navigation Services Operations (MANSOPS) submitted under these Regulations shall be:

- (a) type written;
- (b) signed by the service provider;
- (c) in a format that is easy to revise and includes a list of effective pages; and
- (d) organized in a manner that facilitates evaluation and approval processes.

(2) An ANSP shall keep at least one approved copy of the manual at the principal place of business.

#### 20.1.1.3.8.2. Contents of MANSOPS

A Manual of Air Navigation Service Operations (MANSOPS) shall contain all information and instructions necessary to enable the personnel of an air navigation service provider to perform their duties and in particular shall include—

- (a) introduction;
- (b) management organization;
- (c) services to be provided;
- (d) personnel requirements and their responsibilities;
- (e) training and performance assessment of staff and how that information is tracked;
- (f) Quality Management System;
- (g) contingency plans developed for part or total system failure;
- (h) compliance with the Civil Aviation Regulations Suriname (CARS) as required;
- (i) facilities and equipment and how they are installed and maintained;
- (j) fault and defect reporting;
- (k) maintenance of documents and records;
- (l) facility operations and maintenance plan and procedures;
- (m) search and rescue responsibilities and coordination, operations, plan and procedures;
- (n) the proposed hours of service;
- (o) systems and procedures in the provision of air navigation services; and
- (p) any other information requested by the CASAS.

#### 20.1.1.3.8.3 Accuracy of MANSOPS

(1) For the purposes of maintaining the accuracy of the information in the MANSOPs, the:

- (a) ANSP shall whenever necessary, amend the manual; or
- (b) CASAS may issue a written directive requiring the holder of a certificate to amend the manual.

(2) Notwithstanding sub-regulation (1), the ANSP shall submit the proposed amendment to the CASAS for approval, before the manual is amended.

#### 20.1.1.4 AIR NAVIGATION SERVICES

## 20.1.1.4.9.1 Air Navigation Services Provider

The CASAS shall designate a service provider in accordance with these Regulations to provide:

- (a) air traffic services;
- (b) communication, navigation and surveillance systems;
- (c) meteorological services for air navigation;
- (d) aeronautical search and rescue coordination;
- (e) aeronautical information services, aeronautical maps and charts; or
- (f) for the construction of visual and instrument flight procedures.

## 20.1.1.4.9.2 Air Navigation Services facilities and standard systems

A designated air navigation service provider shall:

- (a) provide in the designated portion of airspace and aerodromes, facilities for the provision of air navigation services; and
- (b) adopt and put into operation the appropriate standard systems, operational practices and rules as specified by the CASAS.

## 20.1.1.4.9.3 Approval of Air Navigation Services facilities.

A person shall not install, maintain and operate air navigation service facilities in the designated airspaces and aerodromes without approval of the Authority.

## 20.1.1.4.9.4 Safety inspections on Air Navigation Services

(1) The CASAS shall carry out safety inspections of air navigation facilities, services, documents and records of the air navigation service provider which may be necessary to determine compliance with these Regulations.

(2) The safety inspections shall be carried out in accordance with the requirements specified by the CASAS.

(3) The CASAS may impose operating restrictions or sanctions on the operations of an ANSP in the event of nonconformance with the approval requirements or any unresolved safety concerns.

## 20.1.1.4.9.5 Access to air navigation facilities.

An inspector of the CASAS shall have unrestricted access to the facilities, installations, records and documents of the air navigation services and the air navigation meteorological service provider to determine compliance with these Regulations.

## 20.1.1.4.9.6 Production of documents

An ANSP shall produce any relevant documents under its possession if requested by an authorised person within seventy-two hours of such request.



#### 20.1.1.4.9.7 Air Navigation Services contingency plan

(1) An ANSP shall develop and maintain contingency plans for implementation in the event of disruption or potential disruption, of air navigation services in the airspace for which the ANSP is responsible.

(2) The ANSP shall liaise with other air navigation service providers in adjacent or contiguous airspaces while developing contingency plans.

(3) The contingency plan shall include:

- (a) the actions to be taken by the ANSP's personnel responsible for providing the service;
- (b) possible alternative arrangements for providing the service; and
- (c) the arrangements for resuming normal operations for the service.

(4) The contingency plan shall be developed in accordance with the requirements specified by the CASAS.

#### 20.1.1.4.9.8 Alternative designated service provider.

The CASAS may, when considered necessary and in the public interest, designate an alternative service provider for a specified period to provide air navigation services.

#### 20.1.1.4.9.9 Units of measurement

The units of measurement used in air and ground operations shall be as specified by the CASAS.

### 20.1.2 COMMON REFERENCE SYSTEMS FOR AIR NAVIGATION

#### 20.1.2.1 Horizontal reference system

20.1.2.1.1 World Geodetic System — 1984 (WGS-84) shall be used as the horizontal (geodetic) reference system for international air navigation. Consequently, published aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.

Note 1.— Comprehensive guidance material concerning WGS-84 is contained in the World Geodetic System — 1984 (WGS-84) Manual (Doc 9674).

20.1.2.1.2 In precise geodetic applications and some air navigation applications, temporal changes in the tectonic plate motion and tidal effects on the Earth's crust shall be modelled and estimated. To reflect the temporal effect, an epoch shall be included with any set of absolute station coordinates.

Note 1.— The epoch of the WGS-84 (G873) reference frame is 1997.0 while the epoch of the latest updated WGS-84 (G1150) reference frame, which includes a plate motion model, is 2001.0. (G indicates that the coordinates were obtained through Global Positioning System (GPS) techniques, and the number following G indicates the GPS week when these coordinates were implemented in the United States' National Geospatial-Intelligence Agency's precise ephemeris estimation process.

Note 2.— The set of geodetic coordinates of globally distributed permanent GPS tracking stations for the most recent realization of the WGS-84 reference frame (WGS-84 (G1150)) is provided in Doc 9674. For each permanent

GPS tracking station, the accuracy of an individually estimated position in WGS-84 (G1150) has been in the order of 1 cm (10<sup>-2</sup>).

Note 3.— Another precise worldwide terrestrial coordinate system is the International Earth Rotation Service (IERS) Terrestrial Reference System (ITRS), and the realization of ITRS is the IERS Terrestrial Reference Frame (ITRF). Guidance material regarding the ITRS is provided in Appendix C of Doc 9674. The most current realization of WGS-84 (G1150) is referenced to the ITRF 2000 epoch. WGS-84 (G1150) is consistent with ITRF 2000 and in practical realization the difference between these two systems is in the one to two centimetre range worldwide, meaning WGS-84 (G1150) and ITRF 2000 are essentially identical.

#### 20.1.2.2 Vertical reference system

20.1.2.2.1 Mean sea level (MSL) datum shall be used as the vertical reference system for international air navigation

*Note 1.— The geoid globally most closely approximates MSL. It is defined as the equipotential surface in the gravity field of the Earth which coincides with the undisturbed MSL extended continuously through the continents.*

*Note 2.— Gravity-related heights (elevations) are also referred to as orthometric heights while distances of points above the ellipsoid are referred to as ellipsoidal heights.*

20.1.2.2.2 The Earth Gravitational Model — 1996 (EGM-96) shall be used as the global gravity model for international air navigation.

20.1.2.2.3 At those geographical positions where the accuracy of EGM-96 does not meet the accuracy requirements for elevation and geoid undulation on the basis of EGM-96 data, regional, national or local geoid models containing high resolution (short wavelength) gravity field data shall be developed and used. When a geoid model other than the EGM-96 model is used, a description of the model used, including the parameters required for height transformation between the model and EGM-96, shall be provided in the Aeronautical Information Publication (AIP).

*Note.— Specifications concerning determination and reporting (accuracy of field work and data integrity) of elevation and geoid undulation at specific positions at aerodromes/heliports are given in the PANS-AIM (Doc 10066), Appendix 1.*

#### 20.1.2.3 Temporal reference system

20.1.2.3.1 The Gregorian calendar and Coordinated Universal Time (UTC) shall be used as the temporal reference system for international air navigation.

*Note 1.— A value in the time domain is a temporal position measured relative to a temporal reference system.*

*Note 2.— UTC is a time scale maintained by the Bureau International de l'Heure and the IERS and forms the basis of a coordinated dissemination of standard frequencies and time signals.*

*Note 3.— Guidance material relating to UTC is contained in CAP to CARS Part 16— Units of Measurement to be Used in Air and Ground Operations.*

*Note 4.— ISO Standard 8601\* specifies the use of the Gregorian calendar and 24-hour local or UTC for information interchange while ISO Standard 19108\* prescribes the Gregorian calendar and UTC as the primary temporal reference system for use with geographic information.*

20.1.2.3.2 When a different temporal reference system is used for some applications, the feature catalogue, or the metadata associated with an application schema or a data set, as appropriate, shall include either a description of that system or a citation for a document that describes that temporal reference system.

Note.— ISO Standard 19108\*, Annex D, describes some aspects of calendars that may have to be considered in such a description.

### 20.1.3 MISCELLANEOUS SPECIFICATIONS

20.1.3.1 Aeronautical information products intended for international distribution shall include English text for those parts expressed in plain language.

20.1.3.2 Place names shall be spelt in conformity with local usage, transliterated, when necessary, into the ISO-Basic Latin alphabet.

20.1.3.3 *Units of measurement used in the origination, processing and distribution of aeronautical data and aeronautical information shall be consistent with the decision taken by the State in respect of the use of the tables contained in CARS Part 16.*

20.1.3.4 ICAO abbreviations shall be used in aeronautical information products whenever they are appropriate and their use will facilitate distribution of aeronautical data and aeronautical information.

\* *ISO Standard*

8601	—	<i>Data elements and interchange formats — Information interchange — Representation of dates and times</i>
9000	—	<i>Quality Management Systems — Fundamentals and Vocabulary</i>
19101	—	<i>Geographic information — Reference model</i>
19104	—	<i>Geographic information — Terminology</i>
19108	—	<i>Geographic information— Temporal schema</i>
19109	—	<i>Geographic information — Rules for application schema</i>
19110	—	<i>Geographic information — Feature cataloguing schema</i>
19115	—	<i>Geographic information — Metadata</i>
19117	—	<i>Geographic information — Portrayal</i>
19131	—	<i>Geographic information — Data product specification</i>
19115	—	<i>Geographic information — Metadata</i>
19117	—	<i>Geographic information — Portrayal</i>
19131	—	<i>Geographic information — Data product specification</i>

## 20.2 RESPONSIBILITIES AND FUNCTIONS

### 20.2.1 STATE RESPONSIBILITIES

20.2.1.1 The ANSP shall:

- (a) provide an aeronautical information service (AIS); or
- (b) agree with one or more other Contracting State(s) for the provision of a joint service; or
- (c) delegate the authority for the provision of the service to a non-governmental agency, provided the regulation of this CARS are adequately met.

20.2.1.2 The aeronautical information service (AIS) provider is responsible for the provision of aeronautical data and aeronautical information within its own territory and those areas over the high seas for which it is responsible for the provision of air traffic services.

20.2.1.3 The aeronautical information service (AIS) provider shall remain responsible for the aeronautical data and aeronautical information provided in accordance with 20.2.1.2. Aeronautical data and aeronautical information provided for and on behalf of a State shall clearly indicate that they are provided under the authority of that State.

20.2.1.4 The aeronautical information service (AIS) provider shall ensure that the aeronautical data and aeronautical information provided are complete, timely and of required quality in accordance with CARS Part 20.3.2.

20.2.1.5 The aeronautical information service (AIS) provider shall ensure that formal arrangements are established between originators of aeronautical data and aeronautical information and the AIS in relation to the timely and complete provision of aeronautical data and aeronautical information.

*Note.— The scope of aeronautical data and aeronautical information that would be the subject of formal arrangements is specified in CARS Part 20.4.*

## 20.2.2 AIS RESPONSIBILITIES and FUNCTIONS

20.2.2.1 The aeronautical information service (AIS) provider shall ensure that aeronautical information/data necessary for the safety, regularity or efficiency of air navigation is made available in a form suitable for the operational requirements of the air traffic management (ATM) community, including:

- (a) those involved in flight operations, including flight crews, flight planning and flight simulators; and
- (b) the ATS unit responsible for flight information service and the services responsible for pre-flight information.

*Note.— A description of the ATM community is contained in the Global Air Traffic Management Operational Concept (Doc 9854).*

20.2.2.2 The aeronautical information service (AIS) provider shall receive, collate or assemble, edit, format, publish/store and distribute aeronautical information/data concerning the entire territory of Suriname and for airspace over high seas delegated to Suriname for provision of air traffic services. Aeronautical information/data shall be published as an Integrated Aeronautical Information Package.

*Note.— An AIS may include origination functions*

20.2.2.3 Where 24-hour service is not provided, service shall be available during the whole period an aircraft is in flight in the area of responsibility of AIS, plus a period of at least two hours before and after such a period. Service shall also be available at such other time as may be requested by an appropriate ground organization

20.2.2.4 An AIS shall, in addition, obtain aeronautical data and aeronautical information to enable it to provide pre-flight information service and to meet the need for in-flight information:

- (a) from the AIS of other States;
- (b) from other sources that may be available.

*Note.— One such source is the subject of a provision*

20.2.2.5 Aeronautical data and aeronautical information obtained under 20.2.2.4 a) shall, when distributed, be clearly identified as having the authority of the originating State.

20.2.2.6 Aeronautical data and aeronautical information obtained under 20.2.2.4 b) shall, if possible, be verified before distribution and if not verified shall, when distributed, be clearly identified as such.

20.2.2.7 An AIS shall promptly make available to the AIS of other States any aeronautical data and aeronautical information necessary for the safety, regularity or efficiency of air navigation required by them, to enable them to comply with 20.2.2.1.

### 20.2.3 EXCHANGE of AERONAUTICAL DATA and AERONAUTICAL INFORMATION

20.2.3.1 The aeronautical information service (AIS) provider shall designate the office to which all elements of the Integrated Aeronautical Information Package originated by other States shall be addressed. Such an office shall be qualified to deal with requests for aeronautical data and aeronautical information originated by other States.

20.2.3.2 *Formal arrangements shall be established between those parties providing aeronautical data and aeronautical information on behalf of the States and their users in relation to the provision of the service.*

*Note.— Guidance material on such formal arrangements is contained in the Aeronautical Information Services Manual (Doc 8126).*

20.2.3.3 Where more than one international NOTAM office is designated within a State, the extent of responsibility and the territory covered by each office shall be defined.

20.2.3.4 An AIS shall arrange, as necessary, to satisfy operational requirements for the issuance and receipt of NOTAM distributed by telecommunication.

20.2.3.5 Wherever practicable, direct contact between AIS shall be established in order to facilitate the international exchange of aeronautical data and aeronautical information.

20.2.3.6 Except as provided in 20.2.3.8, one copy of each of the following aeronautical information products (where available) that have been requested by the AIS of a Contracting State shall be made available by the originating State and provided in the mutually agreed form(s), without charge, even where authority for publication/storage and distribution has been delegated to a non-governmental agency:

Aeronautical Information Publication (AIP), including Amendments and Supplements;

- a) Aeronautical Information Circulars (AIC);
- b) NOTAM; and
- c) Aeronautical charts.

20.2.3.7 The exchange of more than one copy of the elements of aeronautical information products, and other air navigation documents, including those containing air navigation legislation and regulations, shall be subject to bilateral agreement between the participating Contracting States and entities.

20.2.3.8 When aeronautical data and aeronautical information are provided in the form of digital data sets to be used by the AIS, they shall be provided on the basis of agreement between the Contracting States concerned.

*Note.— The intention is that States are able to access data for the purposes specified in 20.2.2.4.*

20.2.3.9 The procurement of aeronautical data and aeronautical information, including the elements of the Integrated Aeronautical Information Package and other air navigation documents, including those containing air navigation legislation and regulations, by States other than Contracting States and by other entities shall be subject to separate agreement with the originating State.

20.2.3.10 Globally interoperable aeronautical data and aeronautical information exchange models shall be used for the provision of data sets.

Note 1.— Specifications concerning globally interoperable aeronautical data and aeronautical information exchange models are contained in the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066).

Note 2.— Guidance material on globally interoperable aeronautical data and aeronautical information exchange models is contained in Doc 8126.

#### **20.2.4 COPYRIGHT**

Note.— In order to protect the investment in the products of a State's AIS as well as to ensure better control of their use, States may wish to apply copyright to those products in accordance with their national laws.

20.2.4.1 Any aeronautical information product which has been granted copyright protection by the originating State and provided to another State in accordance with 20.2.3 shall only be made available to a third party on the condition that the third party is made aware that the product is copyright protected and provided that it is appropriately annotated that the product is subject to copyright by the originating State.

20.2.4.2 When aeronautical data and aeronautical information are provided to a State in accordance with 20.2.3.8, the receiving State shall not provide the digital data sets of the providing State to any third party without the consent of the providing State.

#### **20.2.5 COST RECOVERY**

20.2.5.1 The overhead cost of collecting and compiling aeronautical data and aeronautical information shall be included in the cost basis for airport and air navigation services charges, as appropriate, in accordance with the principles contained in ICAO's Policies on Charges for Airports and Air Navigation Services (Doc 9082).

Note.— When costs of collection and compilation of aeronautical data and aeronautical information are recovered through airport and air navigation services charges, the charge to an individual customer for the supply of a particular AIS product may be based on the costs of printing paper copies, production of electronic media and distribution.

### **20.3. AERONAUTICAL INFORMATION MANAGEMENT**

#### **20.3.1 INFORMATION MANAGEMENT REQUIREMENTS**

The information management resources and processes established by an aeronautical information service (AIS) shall be adequate to ensure the timely collection, processing, storing, integration, exchange and delivery of quality-assured aeronautical data and aeronautical information within the air traffic management (ATM) system.

#### **20.3.2 DATA QUALITY SPECIFICATIONS**

##### **20.3.2.1 Data accuracy**

The order of accuracy for aeronautical data shall be in accordance with its intended use.

Note. Specifications concerning the order of accuracy (including confidence level) for aeronautical data are contained in the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066), Appendix 1.

#### 20.3.2.2 Data resolution

The order of resolution of aeronautical data shall be commensurate with the actual data accuracy.

Note 1. Specifications concerning the resolution of aeronautical data are contained in the PANS-AIM (Doc 10066), Appendix 1.

Note 2. The resolution of the data contained in the database may be the same or finer than the publication resolution.

#### 20.3.2.3 Data integrity

20.3.2.3.1 The integrity of aeronautical data shall be maintained throughout the data chain from origination to distribution to the next intended user.

Note.— Specifications concerning the integrity classification related to aeronautical data are contained in the PANS-AIM (Doc 10066), Appendix 1.

20.3.2.3.2 Based on the applicable integrity classification, procedures shall be put in place in order to:

- a) for routine data: avoid corruption throughout the processing of the data;
- b) for essential data: assure corruption does not occur at any stage of the entire process and include additional processes as needed to address potential risks in the overall system architecture to further assure data integrity at this level; and
- c) for critical data: assure corruption does not occur at any stage of the entire process and include additional integrity assurance processes to fully mitigate the effects of faults identified by thorough analysis of the overall system architecture as potential data integrity risks.

#### 20.3.2.4 Data traceability

Traceability of aeronautical data shall be ensured and retained as long as the data is in use.

#### 20.3.2.5 Data timeliness

Timeliness of aeronautical data shall be ensured by including limits on the effective period of the data elements.

Note 1. These limits may be associated with individual data elements or data sets.

Note 2. If the effective period is defined for a data set, it will account for the effective dates of all of the individual data elements.

#### 20.3.2.6 Data completeness

Completeness of aeronautical data shall be ensured in order to support its intended use.

#### 20.3.2.7 Data format

The format of delivered aeronautical data shall be adequate to ensure that the data is interpreted in a manner that is consistent with its intended use.

### 20.3.3 AERONAUTICAL DATA AND AERONAUTICAL INFORMATION VALIDATION AND VERIFICATION

20.3.3.1 Material to be issued as part of an aeronautical information product shall be thoroughly checked before it is submitted to the AIS, in order to ensure that all necessary information has been included and that it is correct in detail.

20.3.3.2 An AIS shall establish verification and validation procedures which ensure that upon receipt of aeronautical data and aeronautical information, quality requirements are met.

#### 20.3.4 DATA ERROR DETECTION

20.3.4.1 Digital data error detection techniques shall be used during the transmission and/or storage of aeronautical data and digital data sets.

20.3.4.2 Digital data error detection techniques shall be used in order to maintain the integrity levels as specified in 20.3.2.3.

*Note.— Detailed specifications concerning digital data error detection techniques are contained in the PANS-AIM (Doc 10066).*

#### 20.3.5 USE OF AUTOMATION

20.3.5.1 Automation shall be applied in order to ensure the quality, efficiency and cost-effectiveness of aeronautical information services.

*Note.— Guidance material on the development of databases and the establishment of data exchange services is contained in Doc 8126.*

20.3.5.2 Due consideration to the integrity of data and information shall be given when automated processes are implemented and mitigating steps taken where risks are identified.

*Note.— Risks of altering the integrity of data and information may be introduced by automated processes in cases of unexpected systems behaviours.*

20.3.5.3 In order to meet the data quality requirements, automation shall:

- a) enable digital aeronautical data exchange between the parties involved in the data processing chain; and
- b) use aeronautical information exchange models and data exchange models designed to be globally interoperable.

#### 20.3.6 QUALITY MANAGEMENT SYSTEM

20.3.6.1 Quality management systems shall be implemented and maintained encompassing all functions of an AIS, as outlined in 20.2.2. The execution of such quality management systems shall be made demonstrable for each function stage.

*Note.— Guidance material is contained in the Manual on the Quality Management System for Aeronautical Information Services (Doc 9839).*

20.3.6.2 Quality management shall be applicable to the whole aeronautical data chain from data origination to distribution to the next intended user, taking into consideration the intended use of data.

20.3.6.3 The quality management system established in accordance with 20.3.6.1 shall follow the ISO 9000 series of quality assurance standards and be certified by an accredited certification body.

20.3.6.4 Within the context of the established quality management system, the competencies and the associated knowledge, skills and abilities required for each function shall be identified, and personnel assigned to perform those functions shall be appropriately trained. Processes shall be in place to ensure that personnel



possess the competencies required to perform specific assigned functions. Appropriate records shall be maintained so that the qualifications of personnel can be confirmed. Initial and periodic assessments shall be established that require personnel to demonstrate the required competencies. Periodic assessments of personnel shall be used as a means to detect and correct shortfalls in knowledge, skills and abilities.

20.3.6.5 Each quality management system shall include the necessary policies, processes and procedures, including those for the use of metadata, to ensure and verify that aeronautical data are traceable throughout the aeronautical information data chain so as to allow any data anomalies or errors detected in use to be identified by root cause, corrected and communicated to affected users.

20.3.6.6 The established quality management system shall provide users with the necessary assurance and confidence that distributed aeronautical data and aeronautical information satisfy the aeronautical data quality requirements.

20.3.6.7 All necessary measures shall be taken to monitor compliance with the quality management system in place.

20.3.6.8 Demonstration of compliance of the quality management system applied shall be by audit. If nonconformity is identified, initiating action to correct its cause shall be determined and taken without undue delay. All audit observations and remedial actions shall be evidenced and properly documented.

### 20.3.7 HUMAN FACTORS CONSIDERATIONS

20.3.7.1 The organization of an AIS as well as the design, contents, processing and distribution of aeronautical data and aeronautical information shall take into consideration human factors principles which facilitate their optimum utilization.

20.3.7.2 Due consideration shall be given to the integrity of information where human interaction is required and mitigating steps taken where risks are identified

*Note. This may be accomplished through the design of systems, operating procedures or improvements in the operating environment.*

## 20.4 SCOPE OF AERONAUTICAL DATA AND AERONAUTICAL INFORMATION

*Note.— The scope of aeronautical data and aeronautical information provides the minimum requirement to support aeronautical information products and services, aeronautical navigation data bases, air navigation applications and air traffic management (ATM) systems.*

### 20.4.1 Scope of aeronautical data and aeronautical information

20.4.1.1 The aeronautical data and aeronautical information to be received and managed by the aeronautical information service (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.

*Note 1.— Detailed specifications concerning the content of each sub-domain are contained in the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066), Appendix 1.*

*Note 2.— Aeronautical data and aeronautical information in each sub-domain may be originated by more than one organization or authority.*

20.4.1.2 Determination and reporting of aeronautical data shall be in accordance with the accuracy and integrity classification required to meet the needs of the end-user of aeronautical data.

*Note.— Specifications concerning the accuracy and integrity classification related to aeronautical data are contained in the PANS-AIM (Doc 10066), Appendix 1.*

## 20.4.2 Metadata

20.4.2.1 Metadata shall be collected for aeronautical data processes and exchange points.

20.4.2.2 Metadata collection shall be applied throughout the aeronautical information data chain, from origination to distribution to the next intended user.

*Note.— Detailed specifications concerning metadata are contained in the PANS-AIM (Doc 10066).*

## 20.5 AERONAUTICAL INFORMATION PRODUCTS AND SERVICES

### 20.5.1 GENERAL

20.5.1.1 Aeronautical information shall be provided in the form of aeronautical information products and associated services.

*Note.— Specifications concerning the order of resolution of aeronautical data provided for each aeronautical information product are contained in the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066), Appendix 1.*

20.5.1.2 When aeronautical data and aeronautical information are provided in multiple formats, processes shall be implemented to ensure data and information consistency between formats.

### 20.5.2 AERONAUTICAL INFORMATION IN A STANDARDIZED PRESENTATION

20.5.2.1 Aeronautical information provided in a standardized presentation shall include the aeronautical information publication (AIP), AIP Amendments, AIP Supplements, AIC, NOTAM and aeronautical charts.

*Note 1.— Detailed specifications about AIP, AIP Amendments, AIP Supplements, AIC and NOTAM are contained in the PANS-AIM (Doc 10066).*

*Note 2.— Cases where digital data sets may replace the corresponding elements of the standardized presentation are detailed in the PANS-AIM (Doc 10066).*

20.5.2.1.1 The AIP, AIP Amendment, AIP Supplement and AIC shall be provided on paper and/or as an electronic document.

20.5.2.1.2 *The AIP, AIP Amendment, AIP Supplement and AIC when provided as an electronic document (eAIP) shall allow for both displaying on electronic devices and printing on paper.*

#### 20.5.2.2 Aeronautical Information Publication

*Note 1.— The AIP is intended primarily to satisfy international requirements for the exchange of aeronautical information of a lasting character essential to air navigation.*

*Note 2.— The AIP constitutes the basic information source for permanent information and long duration temporary changes.*

AIP shall include:

- (a) a statement of the competent authority responsible for the air navigation facilities, services or procedures covered by the AIP;
- (b) the general conditions under which the services or facilities are available for international use;
- (c) a list of significant differences between the national regulations and practices of the State and the related ICAO Standards, Recommended Practices and Procedures, given in a form that would enable a user to differentiate readily between the requirements of the State and the related ICAO provisions;
- (d) the choice made by a State in each significant case where an alternative course of action is provided for ICAO Standards, Recommended Practices and Procedures.

#### 20.5.2.3 AIP Supplement

A checklist of valid AIP Supplements shall be regularly provided.

*Note.— Detailed specifications concerning the frequency for providing checklists of valid AIP Supplements are contained in the PANS-AIM (Doc 10066).*

#### 20.5.2.4 Aeronautical Information Circulars

20.5.2.4.1 An AIC shall be used to provide:

a long-term forecast of any major change in legislation, regulations, procedures or facilities; or

- (a) information of a purely explanatory or advisory nature liable to affect flight safety; or
- (b) information or notification of an explanatory or advisory nature concerning technical, legislative or purely administrative matters.

20.5.2.4.2 An AIC shall not be used for information that qualifies for inclusion in AIP and NOTAM.

20.5.2.4.3 The validity of AIC currently in force shall be reviewed at least once a year.

20.5.2.4.4 A checklist of currently valid AIC shall be regularly provided.

*Note.— Detailed specifications concerning the frequency for providing checklists of valid AIC are contained in the PANS-AIM (Doc 10066).*

#### 20.5.2.5 Aeronautical charts

*CARS Part 15 — Aeronautical Charts provides regulation including provision requirements for each chart type.*

20.5.2.5.1 The aeronautical charts listed below shall, when available for designated international aerodromes/heliports, form part of the AIP, or be provided separately to recipients of the AIP:

Aerodrome/Heliport Chart — ICAO;

- a) Aerodrome Ground Movement Chart — ICAO;
- b) Aerodrome Obstacle Chart — ICAO Type A;
- c) Aerodrome Obstacle Chart — ICAO Type B (when available);
- d) Aerodrome Terrain and Obstacle Chart — ICAO (Electronic);
- e) Aircraft Parking/Docking Chart — ICAO;
- f) Area Chart — ICAO;
- g) ATC Surveillance Minimum Altitude Chart — ICAO;
- h) Instrument Approach Chart — ICAO;
- i) Precision Approach Terrain Chart — ICAO;
- j) Standard Arrival Chart — Instrument (STAR) — ICAO;
- k) Standard Departure Chart — Instrument (SID) — ICAO; and
- l) Visual Approach Chart — ICAO.

*Note.— A page pocket may be used in the AIP to include the Aerodrome Terrain and Obstacle Chart — ICAO (Electronic) on appropriate electronic media.*

20.5.2.5.2 The Enroute Chart — ICAO shall, when available, form part of the AIP, or be provided separately to recipients of the AIP.

20.5.2.5.3 The aeronautical charts listed below shall, when available, be provided as aeronautical information products:

- a) World Aeronautical Chart — ICAO 1:1 000 000;
- b) Aeronautical Chart — ICAO 1:500 000;
- c) Aeronautical Navigation Chart — ICAO Small Scale; and
- d) Plotting Chart — ICAO chart.

20.5.2.5.4 *Electronic aeronautical charts shall be provided based on digital databases and the use of geographic information systems.*

20.5.2.5.5 The chart resolution of aeronautical data shall be that as specified for a particular chart.

*Note.— Specifications concerning the chart resolution for aeronautical data are contained in the PANS-AIM (Doc 10066), Appendix 1.*

20.5.2.6 NOTAM

*Note.— Detailed specifications for NOTAM, including formats for SNOWTAM and ASHTAM, are contained in the PANS-AIM (Doc 10066).*

A checklist of valid NOTAM shall be regularly provided.

*Note.— Detailed specifications concerning the frequency for providing checklists of valid NOTAM are contained in the PANS-AIM (Doc 10066).*

### 20.5.3 DIGITAL DATA SETS

20.5.3.1 General

20.5.3.1.1 Digital data shall be in the form of the following data sets:

- a) AIP data set;
- b) terrain data sets;
- c) obstacle data sets;
- d) aerodrome mapping data sets; and
- e) instrument flight procedure data sets.

*Note.— Detailed specifications concerning the content of the digital data sets are contained in the PANS-AIM (Doc 10066).*

20.5.3.1.2 Each data set shall be provided to the next intended user together with at least the minimum set of metadata that ensures traceability.

*Note.— Detailed specifications concerning metadata are contained in the PANS-AIM (Doc 10066).*

20.5.3.1.3 A checklist of valid data sets shall be regularly provided.

20.5.3.2 AIP data set

20.5.3.2.1 An AIP data set shall be provided covering the extent of information as provided in the AIP.

20.5.3.2.2 When it is not possible to provide a complete AIP data set, the data subset(s) that are available shall be provided.

20.5.3.2.3 The AIP data set shall contain the digital representation of aeronautical information of lasting character (permanent information and long duration temporary changes) essential to air navigation.

#### 20.5.3.3 Terrain and obstacle data sets

*Note 1.— Numerical requirements for terrain and obstacle data sets are contained in the PANS AIM (Doc 10066), Appendices 1 and 8.*

*Note 2.— Requirements for terrain and obstacle data collection surfaces are contained in the PANS-AIM (Doc 10066), Appendix 8.*

20.5.3.3.1 The coverage areas for terrain and obstacle data sets shall be specified as:

- Area 1: the entire territory of a State;
- Area 2: within the vicinity of an aerodrome, subdivided as follows:
  - Area 2a: a rectangular area around a runway that comprises the runway strip plus any clearway that exists;

*Note.— See CARS Part 12 (Annex 14, Volume I, Chapter 3), for dimensions for runway strips.*

- Area 2b: an area extending from the ends of Area 2a in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side;
- Area 2c: an area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a; and
- Area 2d: an area outside Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing terminal control area (TMA) boundary, whichever is nearest;
- Area 3: the area bordering an aerodrome movement area that extends horizontally from the edge of a runway to 90 m from the runway centre line and 50 m from the edge of all other parts of the aerodrome movement area; and
- Area 4: the area extending 900 m prior to the runway threshold and 60 m each side of the extended runway centre line in the direction of the approach on a precision approach runway, Category II or III.

*20.5.3.3.2 Where the terrain at a distance greater than 900 m (3 000 ft) from the runway threshold is mountainous or otherwise significant, the length of Area 4 shall be extended to a distance not exceeding 2 000 m (6 500 ft) from the runway threshold.*

#### 20.5.3.3.3 Terrain data sets

20.5.3.3.3.1 Terrain data sets shall contain the digital representation of the terrain surface in the form of continuous elevation values at all intersections (points) of a defined grid, referenced to common datum.

20.5.3.3.3.2 Terrain data shall be provided for Area 1.

20.5.3.3.3.3 For aerodromes regularly used by international civil aviation, terrain data shall be provided for:

- a) Area 2a;
- b) the take-off flight path area; and

c) an area bounded by the lateral extent of the aerodrome obstacle limitation surfaces.

20.5.3.3.3.4 *For aerodromes regularly used by international civil aviation, additional terrain data shall be provided within Area 2 as follows:*

- a) *in the area extending to a 10-km radius from the ARP; and*
- b) *within the area between 10 km and the TMA boundary or a 45-km radius (whichever is smaller), where terrain penetrates a horizontal terrain data collection surface specified as 120 m above the lowest runway elevation.*

20.5.3.3.3.5 *Arrangements shall be made for coordinating the provision of terrain data for adjacent aerodromes where their respective coverage areas overlap to assure that the data for the same terrain is correct.*

20.5.3.3.3.6 *For those aerodromes located near territorial boundaries, arrangements shall be made among States concerned to share terrain data.*

20.5.3.3.3.7 *For aerodromes regularly used by international civil aviation, terrain data shall be provided for Area 3.*

20.5.3.3.3.8 For aerodromes regularly used by international civil aviation, terrain data shall be provided for Area 4 for all runways where precision approach Category II or III operations have been established and where detailed terrain information is required by operators to enable them to assess the effect of terrain on decision height determination by use of radio altimeters.

20.5.3.3.3.9 *Where additional terrain data is collected to meet other aeronautical requirements, the terrain data sets shall be expanded to include this additional data.*

20.5.3.3.4 Obstacle data sets

20.5.3.3.4.1 Obstacle data sets shall contain the digital representation of the vertical and horizontal extent of obstacles.

20.5.3.3.4.2 Obstacle data shall not be included in terrain data sets.

20.5.3.3.4.3 Obstacle data shall be provided for obstacles in Area 1 whose height is 100 m or higher above ground.

20.5.3.3.4.4 For aerodromes regularly used by international civil aviation, obstacle data shall be provided for all obstacles within Area 2 that are assessed as being a hazard to air navigation.

20.5.3.3.4.5 For aerodromes regularly used by international civil aviation, obstacle data shall be provided for:

- a) Area 2a for those obstacles that penetrate an obstacle data collection surface outlined by a rectangular area around a runway that comprises the runway strip plus any clearway that exists. The Area 2a obstacle collection surface shall have a height of 3 m above the nearest runway elevation measured along the runway centre line, and for those portions related to a clearway, if one exists, at the elevation of the nearest runway end;
- b) objects in the take-off flight path area which project above a plane surface having a 1.2 per cent slope and having a common origin with the take-off flight path area; and
- c) penetrations of the aerodrome obstacle limitation surfaces.

*Note.— Take-off flight path areas are specified in CARS Part 15 3.8.2. Aerodrome obstacle limitation surfaces are specified in CARS Part 12 (Annex 14, Volume 1, Chapter 4.)*

20.5.3.3.4.6 For aerodromes regularly used by international civil aviation, obstacle data shall be provided for Areas 2b, 2c and 2d for obstacles that penetrate the relevant obstacle data collection surface specified as follows:

- a) Area 2b: an area extending from the ends of Area 2a in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side. The Area 2b obstacle collection surface has a 1.2 per cent slope extending from the ends of Area 2a at the elevation of the runway end in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side;
- b) Area 2c: an area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a. The Area 2c obstacle collection surface has a 1.2 per cent slope extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a. The initial elevation of Area 2c has the elevation of the point of Area 2a at which it commences; and
- c) Area 2d: an area outside Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing TMA boundary, whichever is nearest. The Area 2d obstacle collection surface has a height of 100 m above ground;

except that data need not be collected for obstacles less than a height of 3 m above ground in Area 2b and less than a height of 15 m above ground in Area 2c.

20.5.3.3.4.7 Arrangements shall be made for coordinating the provision of obstacle data for adjacent aerodromes where their respective coverage areas overlap to assure that the data for the same obstacle is correct.

20.5.3.3.4.8 For those aerodromes located near territorial boundaries, arrangements shall be made among States concerned to share obstacle data.

20.5.3.3.4.9 For aerodromes regularly used by international civil aviation, obstacle data shall be provided for Area 3 for obstacles that penetrate the relevant obstacle data collection surface extending a half-metre (0.5 m) above the horizontal plane passing through the nearest point on the aerodrome movement area.

20.5.3.3.4.10 For aerodromes regularly used by international civil aviation, obstacle data shall be provided for Area 4 for all runways where precision approach Category II or III operations have been established.

20.5.3.3.4.11 Where additional obstacle data is collected to meet other aeronautical requirements, the obstacle data sets shall be expanded to include this additional data.

#### 20.5.3.4 Aerodrome mapping data sets

20.5.3.4.1 Aerodrome mapping data sets shall contain the digital representation of aerodrome features.

*Note.*— Aerodrome features consist of attributes and geometries, which are characterized as points, lines or polygons. Examples include runway thresholds, taxiway guidance lines and parking stand areas.

20.5.3.4.2 Aerodrome mapping data sets shall be made available for aerodromes regularly used by international civil aviation.

#### 20.5.3.5 Instrument flight procedure data sets

20.5.3.5.1 Instrument flight procedure data sets shall contain the digital representation of instrument flight procedures.



20.5.3.5.2 *Instrument flight procedure data sets shall be made available for aerodromes regularly used by international civil aviation.*

## 20.5.4 DISTRIBUTION SERVICES

### 20.5.4.1 General

20.5.4.1.1 Aeronautical information products shall be distributed to authorized users who request them.

20.5.4.1.2 AIP, AIP Amendments, AIP Supplements and AIC shall be made available by the most expeditious means.

20.5.4.1.3 *Global communication networks such as the Internet shall, whenever practicable, be employed for the provision of aeronautical information products.*

### 20.5.4.2 NOTAM distribution

20.5.4.2.1 NOTAM shall be distributed on the basis of a request.

20.5.4.2.2 NOTAM shall be prepared in conformity with the relevant provisions of the ICAO communication procedures.

20.5.4.2.3 The aeronautical fixed service (AFS) shall, whenever practicable, be employed for NOTAM distribution.

20.5.4.2.4 When a NOTAM is sent by means other than the AFS, a six-digit date-time group indicating the date and time of NOTAM origination, and the identification of the originator shall be used, preceding the text. The originating State shall select the NOTAM that are to be given international distribution.

20.5.4.2.5 International exchange of NOTAM shall take place only as mutually agreed between the international NOTAM offices concerned, and between the NOTAM offices and multinational NOTAM processing units.

20.5.4.2.6 The originating State shall, upon request, grant distribution of NOTAM series other than those distributed internationally.

20.5.4.2.7 *Selective distribution lists shall be used when practicable.*

*Note.— Guidance material relating to selective distribution lists is contained in the Aeronautical Information Services Manual (Doc 8126).*

## 20.5.5 Pre-flight information service

20.5.5.1 For any aerodrome/heliport used for international air operations, aeronautical information relative to the route stages originating at the aerodrome/heliport shall be made available to flight operations personnel, including flight crews and services responsible for pre-flight information.

20.5.5.2 Aeronautical information provided for pre-flight planning purposes shall include information of operational significance from the elements of aeronautical information products.

*Note 1.— The elements of aeronautical information products may be limited to national publications and when practicable, those of adjacent States, provided a complete library of aeronautical information is available at a central location and means of direct communications are available with that library.*

*Note 2.— A recapitulation of valid NOTAM of operational significance and other information of urgent character may be made available to flight crews in the form of plain-language pre-flight information bulletins (PIB). Guidance material on the preparation of PIB is contained in Doc 8126.*

## 20.5.6 Post-flight information service

20.5.6.1 For any aerodrome/heliport used for international air operations, arrangements shall be made to receive information concerning the state and operation of air navigation facilities or services noted by flight crews.

20.5.6.2 The arrangements specified in CARS 20. 5.6.1 shall ensure that such information is made available to the aeronautical information service (AIS) for distribution as the circumstances necessitate.

20.5.6.3 For any aerodrome/heliport used for international air operations, arrangements shall be made to receive information concerning the presence of wildlife hazards observed by flight crews.

20.5.6.4 The information about presence of wildlife hazards shall be made available to the aeronautical information service for distribution as the circumstances necessitate.

*Note.— See CARS Part 12 (Annex 14, Volume I, Chapter 9, Section 9.4)*

## 20.6 AERONAUTICAL INFORMATION UPDATES

### 20.6.1 GENERAL SPECIFICATIONS

Aeronautical data and aeronautical information shall be kept up to date.

### 20.6.2 AERONAUTICAL INFORMATION REGULATION AND CONTROL (AIRAC)

20.6.2.1 Information concerning the following circumstances shall be distributed under the regulated system (AIRAC), i.e. basing establishment, withdrawal or significant changes upon a series of common effective dates at intervals of 28 days, including 8 November 2018:

- a) limits (horizontal and vertical), regulations and procedures applicable to:
- 1) flight information regions;
  - 2) control areas;
  - 3) control zones;
  - 4) advisory areas;
  - 5) air traffic services (ATS) routes;
  - 6) permanent danger, prohibited and restricted areas (including type and periods of activity when known) and air defence identification zones (ADIZ);
  - 7) permanent areas or routes or portions thereof where the possibility of interception exists;

- b) positions, frequencies, call signs, identifiers, known irregularities and maintenance periods of radio navigation aids, and communication and surveillance facilities;
- c) holding and approach procedures, arrival and departure procedures, noise abatement procedures and any other pertinent ATS procedures;
- d) transition levels, transition altitudes and minimum sector altitudes;
- e) meteorological facilities (including broadcasts) and procedures;
- f) runways and stopways;
- g) taxiways and aprons;
- h) aerodrome ground operating procedures (including low visibility procedures);
- i) approach and runway lighting; and
- j) aerodrome operating minima if published by a State.

20.6.2.2 The information notified under the AIRAC system shall not be changed further for at least another 28 days after the effective date, unless the circumstance notified is of a temporary nature and would not persist for the full period.

20.6.2.3 Information provided under the AIRAC system shall be made available by the aeronautical information service (AIS) so as to reach recipients at least 28 days in advance of the effective date.

*Note.— AIRAC information is distributed by the AIS unit at least 42 days in advance of the AIRAC effective dates with the objective of reaching recipients at least 28 days in advance of the effective date.*

20.6.2.4 When information has not been submitted by the AIRAC date, a NIL notification shall be distributed not later than one cycle before the AIRAC effective date concerned.

20.6.2.5 Implementation dates other than AIRAC effective dates shall not be used for pre-planned operationally significant changes requiring cartographic work and/or for updating of navigation databases.

20.6.2.6 *The regulated system (AIRAC) shall be used for the provision of information relating to the establishment and withdrawal of, and premeditated significant changes in, the circumstances listed below:*

- a) *position, height and lighting of navigational obstacles;*
- b) *hours of service of aerodromes, facilities and services;*
- c) *customs, immigration and health services;*
- d) *temporary danger, prohibited and restricted areas and navigational hazards, military exercises and mass movements of aircraft; and*
- e) *temporary areas or routes or portions thereof where the possibility of interception exists.*

20.6.2.7 Whenever major changes are planned and where advance notice is desirable and practicable, information shall be made available by the AIS so as to reach recipients at least 56 days in advance of the

effective date. This shall be applied to the establishment of, and premeditated major changes in, the circumstances listed below, and other major changes if deemed necessary:

- a) new aerodromes for international instrument flight rules (IFR) operations;
- b) new runways for IFR operations at international aerodromes;
- c) design and structure of the ATS route network;
- d) design and structure of a set of terminal procedures (including change of procedure bearings due to magnetic variation change);
- e) circumstances listed in CARS 20.6.2.1 if the entire State or any significant portion thereof is affected or if cross-border coordination is required.

Note.— Guidance material on what constitutes a major change is included in the Aeronautical Information Services Manual (Doc 8126).

### 20.6.3 Aeronautical information product updates

#### 20.6.3.1 AIP updates

20.6.3.1.1 The aeronautical information publication (AIP) shall be amended or reissued at such regular intervals as may be necessary to keep it up to date.

20.6.3.1.2 Permanent changes to the AIP shall be published as AIP Amendments.

20.6.3.1.3 Temporary changes of long duration (three months or longer) and information of short duration which contains extensive text and/or graphics shall be published as AIP Supplements.

#### 20.6.3.2 NOTAM

20.6.3.2.1 When an AIP Amendment or an AIP Supplement is published in accordance with AIRAC procedures, a Trigger NOTAM shall be originated.

*Note.— Detailed specifications concerning the Trigger NOTAM are contained in the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066).*

20.6.3.2.2 A NOTAM shall be originated and issued promptly whenever the information to be distributed is of a temporary nature and of short duration, or when operationally significant permanent changes or temporary changes of long duration are made at short notice, except for extensive text and/or graphics.

20.6.3.2.3 A NOTAM shall be originated and issued concerning the following information:

- a) Establishment, closure or significant changes in operation of aerodrome(s) or heliport(s) or runways;
- b) establishment, withdrawal or significant changes in operation of aeronautical services (aerodromes, AIS, ATS, communications, navigation and surveillance (CNS), meteorology (MET), search and rescue (SAR), etc.);
- c) establishment, withdrawal or significant changes in operational capability of radio navigation and air-ground communication services. This includes: interruption or return to operation, change of frequencies, change in

notified hours of service, change of identification, change of orientation (directional aids), change of location, power increase or decrease amounting to 50 per cent or more, change in broadcast schedules or contents, or irregularity or unreliability of operation of any radio navigation and air-ground communication services or limitations of relay stations including operational impact, affected service, frequency and area;

- d) unavailability of back-up and secondary systems, having a direct operational impact;
- e) establishment, withdrawal or significant changes to visual aids;
- f) interruption of or return to operation of major components of aerodrome lighting systems;
- g) establishment, withdrawal or significant changes to procedures for air navigation services;
- h) occurrence or correction of major defects or impediments in the manoeuvring area;
- i) changes to and limitations on availability of fuel, oil and oxygen;
- j) major changes to search and rescue facilities and services available;
- k) establishment, withdrawal or return to operation of hazard beacons marking obstacles to air navigation;
- l) changes in regulations requiring immediate action, e.g. prohibited areas for SAR action;
- m) presence of hazards not otherwise promulgated, which affect air navigation (including obstacles, military exercises and operations, intentional and unintentional radio frequency interferences, rocket launches, displays, fireworks, sky lanterns, rocket debris, races and major parachuting events);
- n) conflict zones which affect air navigation (to include information that is as specific as possible regarding the nature and extent of threats of that conflict and its consequences for civil aviation);

Note.— Guidance related to conflict zones is contained in the Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones (Doc 10084).

- o) planned laser emissions, laser displays and search lights if pilots' night vision is likely to be impaired;
- p) erecting or removal of, or changes to, obstacles to air navigation in the take-off/climb, missed approach, approach areas and runway strip;
- q) establishment or discontinuance (including activation or deactivation) as applicable, or changes in the status of prohibited, restricted or danger areas;
- r) establishment or discontinuance of areas or routes or portions thereof where the possibility of interception exists and where the maintenance of guard on the VHF emergency frequency 121.5 MHz is required;
- s) allocation, cancellation or change of location indicators;
- t) changes in aerodrome/heliport rescue and firefighting category provided (see CARS Part 12 (Annex 14, Volume I, Chapter 9, and Attachment A, Section 17));
- u) presence or removal of, or significant changes in, hazardous conditions due to snow, slush, ice, radioactive material, toxic chemicals, volcanic ash deposition or water on the movement area;

- v) outbreaks of epidemics necessitating changes in notified requirements for inoculations and quarantine measures;
- w) observations or forecasts of space weather phenomena, the date and time of their occurrence, the flight levels where provided and portions of the airspace which may be affected by the phenomena;
- x) an operationally significant change in volcanic activity, the location, date and time of volcanic eruptions and/or horizontal and vertical extent of volcanic ash cloud, including direction of movement, flight levels and routes or portions of routes which could be affected;
- y) release into the atmosphere of radioactive materials or toxic chemicals following a nuclear or chemical incident, the location, date and time of the incident, the flight levels and routes or portions thereof which could be affected and the direction of movement;
- z) establishment of operations of humanitarian relief missions, such as those undertaken under the auspices of the United Nations, together with procedures and/or limitations which affect air navigation; and
- aa) implementation of short-term contingency measures in cases of disruption, or partial disruption, of ATS and related supporting services.

*Note.*— See *CARS Part 18.2.31* and *CAP Material* relating to contingency planning

*Note.*— Specifications concerning the timely promulgation of information by NOTAM are contained in Chapter 6 of the Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066).

20.6.3.2.4 The following information shall not be notified by NOTAM:

- a) routine maintenance work on aprons and taxiways which does not affect the safe movement of aircraft
- b) runway marking work, when aircraft operations can safely be conducted on other available runways, or the equipment used can be removed when necessary;
- c) temporary obstructions in the vicinity of aerodromes/heliports that do not affect the safe operation of aircraft;
- d) partial failure of aerodrome/heliport lighting facilities where such failure does not directly affect aircraft operations;
- e) partial temporary failure of air-ground communications when suitable alternative frequencies are known to be available and are operative;
- f) the lack of apron marshalling services and road traffic control;
- g) the unserviceability of location, destination or other instruction signs on the aerodrome movement area;
- h) parachuting when in uncontrolled airspace under VFR (see 20.6.3.2.3 m)), when controlled, at promulgated sites or within danger or prohibited areas;
- i) training activities by ground units;
- j) unavailability of back-up and secondary systems if these do not have an operational impact;
- k) limitations to airport facilities or general services with no operational impact;

- l) national regulations not affecting general aviation;
- m) announcement or warnings about possible/potential limitations, without any operational impact;
- n) general reminders on already published information;
- o) availability of equipment for ground units without containing information on the operational impact for airspace and facility users;
- p) information about laser emissions without any operational impact and fireworks below minimum flying heights;
- q) closure of movement area parts in connection with planned work locally coordinated of duration of less than one hour;
- r) closure or unavailability of, or changes in, operation of aerodrome(s)/heliport(s) outside the aerodrome(s)/heliport(s) operational hours; and
- s) other non-operational information of a similar temporary nature.

*Note.— Information which relates to an aerodrome and its vicinity and does not affect its operational status may be distributed locally during pre-flight or in-flight briefing or other local contact with flight crews.*

#### 20.6.3.3 Data set updates

20.6.3.3.1 Data sets shall be amended or reissued at such regular intervals as may be necessary to keep them up to date.

20.6.3.3.2 Permanent changes and temporary changes of long duration (three months or longer) made available as digital data shall be issued in the form of a complete data set or a subset that includes only the differences from the previously issued complete data set.

20.6.3.3.3 *When made available as a completely reissued data set, the differences from the previously issued complete data set shall be indicated.*

20.6.3.3.4 *When temporary changes of short duration are made available as digital data (digital NOTAM), they shall use the same aeronautical information model as the complete data set.*

20.6.3.3.5 Updates to AIP and digital data sets shall be synchronized.

## 20.7 AERONAUTICAL INFORMATION SERVICE PROVIDER TRAINING PROGRAM

### 20.7.1 Training Program

An aeronautical information service provider shall establish procedures and programs for the training and assessment of all newly appointed and current staff. (see I.S 20.7.1)

### 20.7.2 Training Syllabus

An aeronautical information service provider shall establish procedures to ensure that the training programs for each course shall be comprehensive and facilitate achievement of training goals through a syllabus, which reflects required competencies. The syllabus must ensure compliance with relevant national and international requirements.

**20.7.3 Training Delivery and Assessment**

Training courses for staff of the aeronautical information service provider shall use a method of delivery consistent with using facilities and instructors, or training officers, with current expertise and identified qualifications appropriate to achieving the goals of the course.

The method of assessment, both theoretical and practical, shall be qualified assessors and appropriate processes and facilities.

**20.7.4 Training Records**

Training records of the staff of the aeronautical information service provider shall be maintained to show what competences staff possess, and to show what training has been carried out, and the results of that training.

**20.7.5 Refresher Training**

Refresher training for the staff of the aeronautical information service provider involves periodic training and assessment of individuals performing functions in aeronautical information services in those competencies (knowledge and skills) which are essential, but infrequently or rarely used. The content and periodicity of refresher training shall be sufficient to ensure competency.

**20.7.6 On-going Training**

The training program shall provide for on-going training of the staff of the aeronautical information service provider, as necessary, to ensure that staff are competent in the use of new or emerging standards, procedures, techniques, facilities and equipment identified as essential to task performance.

**20.7.7 Remedial Training**

The training program for the staff of the aeronautical information service provider shall have a process which identifies deficiencies in knowledge or application, and must have a process to ensure these deficiencies are rectified.

**20.7.8 Qualifications of Trainers and Checkers**

Persons carrying out training and/or checking functions as part of the aeronautical information service provider's training programme shall be appropriately qualified for these functions.

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**CIVIL AVIATION REGULATIONS  
SURINAME**

**PART 20 – IMPLEMENTING STANDARDS**

**VERSION 2.0**

**DATE JULY 2022**

For ease of reference, the number assigned to each Implementing Standards corresponds to its associated regulation. For example, IS: 20.3.2.1 would reflect a standard required in subsection 20.3.2.1

**IS. 20.7.1 TRAINING PROGRAM**

The scope of the training and checking is largely a matter for the organization to determine, but generally, training for AIS would include the following topics:

- a) Principles of the Aeronautical Information Service;
- b) Organization of AIS;
- c) Responsibilities and Functions of AIS;
- d) ICAO Documents
- e) AIS Products
- f) Responsibilities and Limitations
- g) The Integrated AIP Package;
- h) Relationships with External Agencies;
- i) Change Management;
- j) Applicable Policies and Procedures
- k) Standard Operating Procedures
- l) Quality Processes
- m) Coordination Requirements
- n) Collation and Processing
- o) Data Entry and Verification
- p) Data Structures
- q) Formats to be used
- r) Checking Procedures and Processes
- s) File Management
- t) Record Keeping
- u) Publication and Production
- v) Distribution
- w) AIS Automation

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