

## CHAPTER (1)

### GENERAL

#### 1.1 COMMON REFERENCE SYSTEMS

##### 1.1.1 Horizontal reference system

World Geodetic System — 1984 (WGS-84) shall be used as the horizontal (geodetic) reference system. Reported aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.

##### 1.1.2 Vertical reference system

Mean sea level (MSL) datum, which gives the relationship of gravity-related height (elevation) to a surface known as the geoid, shall be used as the vertical reference system.

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.

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

##### 1.1.3 Temporal reference system

The Gregorian calendar and Coordinated Universal Time (UTC) shall be used as the temporal reference system.

#### 1.2 CERTIFICATION OF AERODROMES

When an aerodrome is granted a certificate, it signifies to aircraft operators and other organizations operating on the aerodrome that, at the time of certification, the aerodrome meets the CARC specifications regarding the facility and its operation, and that it has, according to the CARC, the capability to maintain these specifications for the period of validity of the certificate. The certification process also establishes the baseline for continued monitoring of compliance with CARC specifications.

### 1.3 AIRPORT DESIGN

1.3.1 Architectural and infrastructure-related requirements for the optimum implementation of international civil aviation security measures shall be integrated into the design and construction of new facilities and alterations to existing facilities at an aerodrome.

*Note: Guidance on all aspects of the planning of aerodromes including security considerations is contained in the CARC Guidance Material Aerodrome Master Planning 34/ADMP.*

1.3.2 The design of aerodromes shall take into account land-use and environmental control measures and shall develop an Environmental Management System.

### 1.4 AERODROME REFERENCE CODE

The intent of the reference code is to provide a simple method for interrelating the numerous specifications concerning the characteristics of aerodromes so as to provide a series of aerodrome facilities that are suitable for the airplanes that are intended to operate at the aerodrome. The code is not intended to be used for determining runway length or pavement strength requirements. The code is composed of two elements which are related to the airplane performance characteristics and dimensions. Element 1 is a number based on the airplane reference field length and element 2 is a letter based on the airplane wing span. The code letter or number within an element selected for design purposes is related to the critical airplane characteristics for which the facility is provided. When applying this part, first identify the airplanes which the aerodrome is intended to serve and then determine the two elements of the code.

1.4.1 An aerodrome reference code — code number and letter — which is selected for aerodrome planning purposes shall be determined in accordance with the characteristics of the airplane for which an aerodrome facility is intended.

1.4.2 The aerodrome reference code numbers and letters shall have the meanings assigned to them in Table 1-1.

1.4.3 The code number for element 1 shall be determined from Table 1-1, column 1, selecting the code number corresponding to the highest value of the airplane reference field lengths of the airplanes for which the runway is intended.

*Note 1: The determination of the aeroplane reference field length is solely for the selection of a code number and is not intended to influence the actual runway length provided.*

*Note 2: Guidance on determining the runway length is given in CARC Guidance material Runway Design CARC-34 /RWYD.*

1.4.4 The code letter for element 2 shall be determined from Table 1-1, by selecting the code letter which corresponds to the greatest wing span of the airplanes for which the facility is intended.

*Note: Guidance on determining the aerodrome reference code is given in CARC Guidance Material Runway Design 34/RWYD.*

**Table 1-1  
Aerodrome reference code (see 1.4.2 to 1.4.4)**

**Code element 1**

Code Number	Airplane reference field length
1	Less than 800 m
2	800 m up to but not including 1 200 m
3	1 200 m up to but not including 1 800 m
4	1 800 m and over

**Code element 2**

Code letter	Wing Span
A	Up to but not including 15 m
B	15 m up to but not including 24 m
C	24 m up to but not including 36 m
D	36 m up to but not including 52 m
E	52 m up to but not including 65 m
F	65 m up to but not including 80 m

*Note: Guidance on planning for airplanes with wing spans greater than 80 m is given in the CARC Guidance Material Runway Design 34/RWYD.*

## 1.5 SPECIFIC PROCEDURES FOR AERODROME OPERATIONS

*Introductory Note: This section introduces PANS-Aerodromes (34/PANS-AD) for use by an aerodrome undertaking an assessment of its compatibility with the type of traffic or operation it is intending to accommodate. The material in the PANS Aerodromes addresses operational issues faced by existing aerodromes and provides the necessary procedures to ensure the continued safety of operations. Where alternative measures, operational procedures and operating restrictions have been developed, these are detailed in the aerodrome manual and reviewed periodically to assess their continued validity. The PANS-Aerodromes does not substitute nor circumvent the provisions contained in JCAR Part 139. It is expected that infrastructure on an existing aerodrome or a new aerodrome will fully comply with the requirements in JCAR Part 139.*

1.5.1 When the aerodrome accommodates an aeroplane that exceeds the certificated characteristics of the aerodrome, the compatibility between the operation of the aeroplane and aerodrome infrastructure and operations shall be assessed and appropriate measures developed and implemented in order to maintain an acceptable level of safety during operations.

*Note: Procedures to assess the compatibility of the operation of a new aeroplane with an existing aerodrome can be found in the PANS-Aerodromes (34/PANS-AD).*

1.5.2 Information concerning alternative measures, operational procedures and operating restrictions implemented at an aerodrome arising from 5.1 shall be promulgated.

*Note: See PANS-Aerodromes (34/PANS-AD), Chapter 3, section 3.6, on promulgation of safety information.*