APPENDIX 1

NOTIFICATION OF AERODROME DATA AND INFORMATION

Contents

1.0 INTRODUCTION 2
2.0 AERONAUTICAL DATA 2
3.0 AERODROME REFERENCE POINT 2
4.0 AERODROME REFERENCE CODE 3
5.0 AERODROME AND RUNWAY ELEVATIONS 4
6.0 AERODROME REFERENCE TEMPERATURE 4
7.0 AERODROME DIMENSIONS AND RELATED INFORMATION 4
8.0 STRENGTH OF PAVEMENTS 6
9.0 PRE-FLIGHT ALTIMETER CHECK LOCATION 8
10.0 DECLARED DISTANCES 9
11.0 CONDITION OF THE MOVEMENT AREA AND RELATED FACILITIES 9
12.0 DISABLED AIRCRAFT REMOVAL 10
13.0 RESCUE AND FIREFIGHTING 11
14.0 VISUAL APPROACH SLOPE INDICATOR SYSTEMS 11
15.0 COORDINATION BETWEEN AERONAUTICAL INFORMATION SERVICES AND AERODROME AUTHORITIES 12

NOTIFICATION OF AERODROME DATA AND INFORMATION

1.0 INTRODUCTION

1.1 This appendix expands on the requirements of SD-Aerodrome chapter 2 section 2.2 pertaining to the aerodrome reference code and 2.17 pertaining to aerodrome data and information requirements.

2.0 AERONAUTICAL DATA

2.1 Determination and reporting of aerodrome-related aeronautical data shall be in accordance with the accuracy and integrity classification required to meet the needs of the end-users of aeronautical data.

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

2.2 Aerodrome mapping data should be made available to the aeronautical information services for all certified aerodromes, where safety and/or performance-based operations suggest possible benefits.

2.3 Where made available in accordance with 2.2, the selection of the aerodrome mapping data features to be collected shall be made with consideration of the intended applications i.e. the selection of the features to be collected match a defined operational need.

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

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

3.0 AERODROME REFERENCE POINT

3.1 An aerodrome reference point shall be established for an aerodrome.

3.2 The aerodrome reference point shall be located near the initial or planned geometric centre of the aerodrome and shall normally remain where first established.

3.3 The position of the aerodrome reference point shall be measured and reported to the Aeronautical Information Services in degrees, minutes and seconds.

4.0 AERODROME REFERENCE CODE

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 aeroplane for which an aerodrome facility is intended.

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

4.3 The code number for element 1 shall be determined from Table 1, column 1, selecting the code number corresponding to the highest value of the aeroplane reference field lengths of the aeroplanes 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 the Aerodrome Design Manual, (Doc 9157), Part 1 — Runways.

4.4 The code letter for element 2 shall be determined from Table 1 by selecting the code letter which corresponds to the greatest wingspan of the aeroplanes for which the facility is intended.

Note1. — Guidance on determining the aerodrome reference code as well as a list of examples of representative aeroplanes, chosen to provide an example of each possible aerodrome reference code number and letter combination is provided in the CAAF Guidance Material Aerodrome reference code and the ICAO Aerodrome Design Manual (Doc 9157), Parts 1 and 2.

Table 1 - Aerodrome Reference Code

Code Element 1		*Code Element 2*	
Code Number	*Aeroplane reference Field length*	*Code Letter*	*Wingspan*
1	*Less than 800m*	*A*	*Up to but not including 15m*
2	*800m up to but not including 1200m*	*B*	*15m up to but not including 24m*
3	*1200m up to but not including 1800m*	*C*	*24m up to but not including 36m*
4	*1800m and over*	*D*	*36m up to but not including 52m*
		E	*52m up to but not including 65m*
		F	*65m up to but not including 80m*

Note. — Guidance on planning for aeroplanes with wingspans greater than 80m is given in the ICAO Aerodrome Design Manual (Doc 9157), Parts 1 and 2.

5.0 AERODROME AND RUNWAY ELEVATIONS

5.1 The aerodrome elevation and geoid undulation at the aerodrome elevation position shall be measured to the accuracy of one-half metre or foot and reported to the AIS.

5.2 For an aerodrome used by international civil aviation for:

(a) non-precision approaches, the elevation and geoid undulation of each threshold, the elevation of the runway end and any significant high and low intermediate points along the runway shall be measured to the accuracy of one-half metre or foot and reported to the AIS, and

(b) precision approach runways, the elevation and geoid undulation of the threshold, the elevation of the runway end and the highest elevation of the touchdown zone shall be measured to the accuracy of one-quarter metre or foot and reported to the AIS.

Note. — Geoid undulation must be measured in accordance with the appropriate system of coordinates.

6.0 AERODROME REFERENCE TEMPERATURE

6.1 An aerodrome reference temperature shall be determined for the aerodrome in degrees Celsius.

6.2 The aerodrome reference temperature should be the monthly mean of the daily maximum temperatures for the hottest month of the year (the hottest month being that which has the highest monthly mean temperature). This temperature should be averaged over a period of years.

7.0 AERODROME DIMENSIONS AND RELATED INFORMATION

7.1 The following data shall be measured or described, as appropriate, for each facility provided on the aerodrome:

(a) runway — true bearing to one-hundredth of a degree, designation number, length, width, displaced threshold location to the nearest metre or foot, slope, surface type, type of runway and, for a precision approach runway category I, the existence of an obstacle free zone when provided;

(b) strip, runway end safety area and stop way - length, width to the nearest metre or foot, surface type; and

(c) arresting system — location (which runway end) and description;

(d) taxiway — designation, width, surface type;

(e) apron — surface type, aircraft stands;

(f) the boundaries of the air traffic control service;

(g) clearway — length to the nearest metre or foot, ground profile;

(h) visual aids for approach procedures, marking and lighting of runways, taxiways and aprons, other visual guidance and control aids on taxiways and aprons, including taxi-holding positions and stop bars, and location and type of visual docking guidance systems;

(i) location and radio frequency of any VOR aerodrome checkpoint;

(j) location and designation of standard taxi-routes; and

(k) distances to the nearest metre or foot of localizer and glide path elements comprising an instrument landing system (ILS) or azimuth and elevation antenna of a microwave landing system (MLS) in relation to the associated runway extremities.

7.2 The geographical coordinates of each threshold shall be measured and reported to the AIS in degrees, minutes, seconds and hundredths of seconds.

7.3 The geographical coordinates of appropriate taxiway centre line points shall be measured and reported to the AIS in degrees, minutes, seconds and hundredths of seconds.

7.4 The geographical coordinates of each aircraft stand shall be measured and reported to the AIS in degrees, minutes, seconds and hundredths of seconds.

7.5 The geographical coordinates of obstacles in Area 2 (the part within the aerodrome boundary) and in Area 3 shall be measured and reported to the AIS in degrees, minutes, seconds and tenths of seconds. In addition, the top elevation, type, marking and lighting (if any) of obstacles shall be reported to the AIS.

Note 1. — ICAO Annex 15, Appendix 1 for graphical illustrations of obstacle data collection surfaces and criteria used to identify obstacles in Areas 2 and 3.

Note 2. — PANS-AIM (Doc 10066) Appendix 1 and Appendix 8 provide requirements for obstacle data determination in Areas 2 and 3.

8.0 STRENGTH OF PAVEMENTS

8.1 The bearing strength of a pavement shall be determined.

8.2 The bearing strength of a pavement intended for aircraft of apron (ramp) mass greater than 5,700kg shall be made available using the aircraft classification number — pavement classification number (ACN-PCN) method by reporting all of the following information:

(a) the pavement classification number (PCN);

(b) pavement type for ACN-PCN determination;

(c) subgrade strength category;

(d) maximum allowable tire pressure category or maximum allowable tire pressure value; and

(e) evaluation method.

Note. — If necessary, PCNs may be published to an accuracy of one-tenth of a whole number.

8.3 The pavement classification number (PCN) reported shall indicate that an aircraft with an aircraft classification number (ACN) equal to or less than the reported PCN can operate on the pavement subject to any limitation on the tire pressure, or aircraft all-up mass for specified aircraft type(s).

Note. — Different PCNs may be reported if the strength of the pavement is subject to significant seasonal variation.

8.4 The ACN of an aircraft shall be determined in accordance with the standard procedures associated with the ACN-PCN method.

8.5 For the purposes of determining the ACN, the behaviour of a pavement shall be classified as equivalent to a rigid or flexible construction.

8.6 Information on pavement type for ACN-PCN determination, subgrade strength category, maximum allowable tire pressure category and evaluation method shall be reported using the following codes:

(a) *Pavement type for ACN-PCN determination:*

	Code
Rigid Pavement	**R**
Flexible Pavement	**F**
Note. — If the actual construction is composite or non-standard, include a note to that effect (see example 2 below).	

(b) Subgrade strength category:

	Code
High strength: characterized by K = 150 MN/m3 and representing all K values above 120 MN/m3 for rigid pavements, and by CBR = 15 and representing all CBR values above 13 for flexible pavements	**A**
Medium strength: characterized by K = 80 MN/m3 and representing a range in K of 60 to 120 MN/m3 for rigid pavements, and by CBR = 10 and representing a range in CBR of 8 to 13 for flexible pavements.	**B**
Low strength: characterized by K = 40 MN/m3 and representing a range in K of 25 to 60 MN/m3 for rigid pavements, and by CBR = 6 and representing a range in CBR of 4 to 8 for flexible pavements.	**C**
Ultra-low strength: characterized by K = 20 MN/m3 and representing all K values below 25 MN/m3 for rigid pavements, and by CBR = 3 and representing all CBR values below 4 for flexible pavements.	**D**

(c) Maximum allowable tire pressure category:

	Code
Unlimited: no pressure limit	**W**
High: pressure limited to 1.75 MPa.	**X**
Medium: pressure limited to 1.25 MPa	**Y**
Low: pressure limited to 0.50 MPa.	**Z**
Note. — Where the pavement is used by large aircraft or aircraft with tire pressures in the upper categories, particular attention should be given to the integrity of light fittings in the pavement and pavement joints	

(d) *Evaluation method:*

	Code
Technical evaluation: representing a specific study of the pavement characteristics and application of pavement behaviour technology	**T**
Using aircraft experience: representing a knowledge of the specific type and mass of aircraft satisfactorily being supported under regular use	**U**

8.7 The following examples illustrate how pavement strength data are reported under the ACN-PCN method

Example 1. — If the bearing strength of a rigid pavement, resting on a medium strength subgrade, has been assessed by technical evaluation to be PCN 80 and there is no tire pressure limitation, then the reported information would be:

PCN 80 / R / B / W / T

Example 2. — If the bearing strength of a composite pavement, behaving like a flexible pavement and resting on a high strength subgrade, has been assessed by using aircraft experience to be PCN 50 and the maximum tire pressure allowable is 1.25 MPa, then the reported information would be:

PCN 50 / F / A / Y / U
Note. — Composite construction.

Example 3. — If the bearing strength of a flexible pavement, resting on a medium strength subgrade, has been assessed by technical evaluation to be PCN 40 and the maximum allowable tire pressure is 0.80 MPa, then the reported information would be:

PCN 40 / F / B / 0.80 MPa /T

Example 4. — If a pavement is subject to a B747-400 all-up mass limitation of 390 000 kg, then the reported information would include the following note:

Note. — The reported PCN is subject to a B747-400 all-up mass limitation of 390 000 kg.

8.8 Criteria to regulate the use of a pavement by an aircraft with an ACN higher than the PCN reported for that pavement in accordance with 8.2 and 8.3 is published in *Guidance Material – Pavement Overload Operations at Aerodromes* and shall be followed for overload operations.

8.9 The bearing strength of a pavement intended for aircraft of apron (ramp) mass equal to or less than 5,700 kg shall be made available by reporting the following information:

(a) maximum allowable aircraft mass; and
(b) maximum allowable tire pressure.

Example: **4 000 kg/0.50 MPa.**

9.0 PRE-FLIGHT ALTIMETER CHECK LOCATION

9.1 One or more pre-flight altimeter check locations shall be established for an aerodrome.

9.2 A pre-flight check location should be located on an apron as this enables an altimeter check to be made prior to obtaining taxi clearance and eliminates the need for stopping for that purpose after leaving the apron.

Note — normally an entire apron can serve as a satisfactory altimeter check location.

9.3 The elevation of a pre-flight altimeter check location shall be given as the average elevation, rounded to the nearest metre or foot, of the area on which it is located. The elevation of any portion of a pre-flight altimeter check location shall be within 3m (10ft) of the average elevation for that location.

10.0 DECLARED DISTANCES

10.1 The following distances shall be calculated to the nearest metre or foot for a runway intended for use by commercial air transport:

(a) take-off run available;
(b) take-off distance available;
(c) accelerate-stop distance available; and
(d) landing distance available.

Note. — Guidance on calculation of declared distances is given in CAAF Guidance Material – "Calculation of Declared Distances".

11.0 CONDITION OF THE MOVEMENT AREA AND RELATED FACILITIES

11.1 Information on the condition of the movement area and the operational status of related facilities shall be provided to the appropriate AIS unit, and similar information of operational significance to the air traffic services units, to enable those units to provide the necessary information to arriving and departing aircraft. The information shall be kept up to date and changes in conditions reported without delay.

11.2 The condition of the movement area and the operational status of related facilities shall be monitored, and reports on matters of operational significance affecting aircraft and aerodrome operations shall be provided in order to take appropriate action, particularly in respect of the following:

(a) construction or maintenance work;

(b) rough or broken surfaces on a runway, a taxiway or an apron;

(c) snow, slush, ice, or frost on a runway, a taxiway or an apron;

(d) water on a runway, a taxiway or an apron;

(e) snow banks or drifts adjacent to a runway, a taxiway or an apron;

(f) anti-icing or de-icing liquid chemicals or other contaminants on a runway, taxiway or apron;

(g) other temporary hazards, including parked aircraft;

(h) failure or irregular operation of part or all of the aerodrome visual aids;

(i) failure of the normal or secondary power supply; and

(j) Other contaminants such as mud, dust, sand, volcanic ash, oil and rubber.

11.3 To facilitate compliance with 11.1 and 11.2, inspections of the movement area shall be carried out each day at least once where the code number is 1 or 2 and at least twice where the code number is 3 or 4.

11.4 Personnel assessing and reporting runway surface conditions required in 11.2 shall be trained and competent to perform these duties.

Note. — Guidance on criteria for training of personnel referred to in 9.4 is set out in the ICAO Airport Services Manual (Doc 9137), Part 8, Chapter 7.

11.5 The operator of a *certified* aerodrome shall have in place procedures to ensure that whenever water is present on a runway, a description of the runway surface conditions shall be made available using the following terms:

DAMP	*the surface shows a change of colour due to moisture.*
WET	*the surface is soaked but there is no standing water.*
STANDING WATER	*for aeroplane performance purposes, a runway where more than 25 per cent of the runway surface area (whether in isolated areas or not) within the required length and width being used is covered by water more than 3 mm deep.*

11.6 Information that a runway or portion thereof may be slippery when wet shall be made available.

Note. — The determination that a runway or portion thereof may be slippery when wet is not based solely on the friction measurement obtained using a continuous friction measuring device. Supplementary tools to undertake this assessment are described in the ICAO Airport Services Manual (Doc 9137), Part 2.

11.7 Notification shall be given to aerodrome users when the friction level of a paved runway or portion thereof is less than that specified in the Fiji AIP.

Note. — Guidance on conducting a runway surface friction characteristics evaluation programme that includes determining and expressing the minimum friction level is provided in ICAO Annex 14 Attachment A Section 7 (Runway Surface Friction Characteristics Evaluation Programme).

12.0 DISABLED AIRCRAFT REMOVAL

12.1 The operator of a *certified* aerodrome shall ensure that the telephone/telex number(s) of the office of the aerodrome coordinator of operations for the removal of an aircraft disabled on or adjacent to the movement area is made available, on request, to aircraft operators. Furthermore, information concerning the capability to remove an aircraft disabled on or adjacent to the movement area shall be made available.

12.2 The capability to remove a disabled aircraft may be expressed in terms of the largest type of aircraft which the aerodrome is equipped to remove.

13.0 RESCUE AND FIREFIGHTING

13.1 Information concerning the level of protection provided at an aerodrome for aircraft rescue and firefighting purposes shall be made available.

13.2 For certified or registered aerodromes, the level of protection normally available at the aerodrome shall be expressed in terms of the category of the rescue and firefighting services as described in chapter 4 and Appendix 9 of this SD-AD and in accordance with the types and amounts of extinguishing agents normally available at the aerodrome.

13.3 Changes in the level of protection normally available at an aerodrome for rescue and firefighting shall be notified to the appropriate air traffic services units and aeronautical information services units to enable those units to provide the necessary information to arriving and departing aircraft. When such a change has been corrected, the above units shall be advised accordingly.

Note. — Changes in the level of protection from that normally available at the aerodrome could result from a change in the availability of extinguishing agents, equipment to deliver the agents or personnel to operate the equipment, etc.

13.4 For aerodromes where the level of protection is expressed in terms of the category of the rescue and firefighting services, a change shall be expressed in terms of the new category of the rescue and firefighting service available at the aerodrome.

14.0 VISUAL APPROACH SLOPE INDICATOR SYSTEMS

14.1 The following information concerning a visual approach slope indicator system installation shall be made available:

(a) associated runway designation number;

(b) type of system; for a PAPI or APAPI installation, the side of the runway on which the lights are installed, i.e. left or right, shall be given;

(c) where the axis of the system is not parallel to the runway centre line, the angle of displacement and the direction of displacement, i.e. left or right, shall be indicated;

(d) nominal approach slope angle(s). For a PAPI and an APAPI this shall be angle (B + C) ÷ 2 and (A + B) ÷ 2, respectively as in SD-AD appendix 5; and

(e) minimum eye height(s) over the threshold of the on-slope signal(s). For a PAPI this shall be the setting angle of the third unit from the runway minus 2', i.e. angle B minus 2', and for an APAPI this shall be the setting angle of the unit farther from the runway minus 2', i.e. angle A minus 2'.

15.0 COORDINATION BETWEEN AERONAUTICAL INFORMATION SERVICES AND AERODROME AUTHORITIES

15.1 To ensure that aeronautical information services units obtain information to enable them to provide up-to-date pre-flight information and to meet the need for in-flight information, arrangements shall be made between aeronautical information services and aerodrome authorities responsible for aerodrome services to report to the responsible aeronautical information services unit, with a minimum of delay:

(a) information on the status of certification of aerodromes and aerodrome conditions *(sections 11, 12, 13 and 15)*;

(b) the operational status of associated facilities, services and navigation aids within their area of responsibility;

(c) any other information considered to be of operational significance.

15.2 Before introducing changes to the air navigation system, due account shall be taken by the services responsible for such changes of the time needed by aeronautical information services for the preparation, production and issue of relevant material for promulgation. To ensure timely provision of the information to aeronautical information services, close coordination between those services concerned is therefore required.

15.3 Of a particular importance are changes to aeronautical information that affect charts and/or computer-based navigation systems which qualify to be notified by the aeronautical information regulation and control (AIRAC) system, as specified in the SD-AIS and Annex 15, Chapter 6. The predetermined, internationally agreed AIRAC effective dates shall be observed by the responsible certified aerodrome operator when submitting the raw information/data to aeronautical information services.

15.4 The aerodrome services responsible for the provision of raw aeronautical information/data to the aeronautical information services shall do that while taking into account accuracy and integrity requirements required to meet the needs of the end-user of aeronautical data.

Note 1. — Specifications concerning the accuracy and integrity classification of aerodrome-related aeronautical data and detailed specifications concerning digital data error detection techniques are contained in PANS-AIM (Doc 10066) Appendix 1.

Note 2. — Specifications for the issue of NOTAM is contained in Annex 15, Chapter 6 and PANS-AIM (Doc 10066), Appendices 3 and 4, respectively.

Note 3. — AIRAC information is distributed by the AIS 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. Detailed specifications concerning the AIRAC system are contained in PANS-AIM (Doc 10066), Chapter 6.

Note 4. — The schedule of the predetermined internationally agreed AIRAC common effective dates at intervals of 28 days and guidance for the AIRAC use are contained in the AIP – FIJI and the Aeronautical Information Services Manual (Doc 8126, Chapter 2).

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