



# **CIVIL AVIATION PUBLICATION**

## **AGA 01**

# **AERODROME CERTIFICATION**

INDEX



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## AGA 01

## AERODROME CERTIFICATION

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## CHAPTER 1

### GENERAL

#### 1.1 OVERVIEW

This manual contains standards and guidance for establishment certification and further development of aerodromes. It provides the procedures that must be followed for showing compliance with the Aerodrome Certification requirements of CAR AGA 1 as well as explanatory material to assist in showing compliance.

#### 1.2 APPLICABILITY

The material contained herein applies to applicants seeking approval to establish and operate aerodromes as well as Aerodrome Operators intending to transfer, amend or surrender Aerodrome Certificates or modify their aerodrome facilities.

#### 1.3 REFERENCES

- ▷ CAR AGA 1
- ▷ Annex 14 Volume I – Aerodromes (Eighth Edition July 2018)
- ▷ ICAO Doc 9774 - Manual on Certification of Aerodromes (First Edition 2001)
- ▷ ICAO Doc 9981 – PANS Aerodromes (Second Edition 2016)
- ▷ CAR DEF - Definitions

#### 1.4 DEFINITIONS

*Note: Terms and definitions that are shown in singular shall also take on the same meaning when they are expressed in plural form in this CAP and vice versa.*

**Accident** An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which

- (a) a person is fatally or seriously injured as a result of being in the aircraft, or direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or direct exposure to jet blast, except when the injury are from natural causes, self-inflicted, or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew or;
- (b) the aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected component except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or

puncture holes in the aircraft skin; or

- (c) the aircraft is missing or is completely inaccessible.

**Aerodrome.** A defined area on land (including any buildings, installation and equipment) used or intended to be used, either wholly or in part, for the arrival, departure and surface movement of aircraft.

**Aerodrome Beacon** Aeronautical beacon used to indicate the location of an aerodrome from the air.

**Aerodrome Certificate** Means the certificate to operate an aerodrome issued under the authority of the Director General subsequent to the acceptance/approval of the aerodrome manual and compliance with other requirements of CAR AGA 1.

**Aerodrome Elevation** The elevation of the highest point of the landing area.

**Aerodrome facilities and equipment** Means any facility or equipment, inside or outside the boundaries of an aerodrome that is constructed, or installed, and maintained for the arrival, departure and surface movement of aircraft.

**Aerodrome Manual** The manual that forms part of the application for an Aerodrome Certificate pursuant to CAR AGA 1 and includes any amendments to the manual accepted by the CAA-B

**Aerodrome Operator** In relation to a certified aerodrome, means the holder of an Aerodrome Certificate.

**Aerodrome Reference Point** The designated geographical location of an aerodrome.

**Aeronautical Beacon** An aeronautical ground light visible at all azimuths, either continuously or intermittently, to designate a particular point on the surface of the earth.

**Aeronautical Ground Light** Any light specially provided as an aid to air navigation, other than a light displayed on an aircraft.

**Aeronautical Information Circular** Means a notice containing information which relates to flight safety, air navigation, technical, administrative or legislative matters.

**Aeronautical Information Publication** Means a publication issued by and with the authority of the Aeronautical Information Services and containing aeronautical information of a lasting character essential to air navigation.

**Aeronautical Information Services** Means the services established within the defined area of coverage responsible for the provision of aeronautical information and data necessary for the safety, regularity and efficiency of air navigation and, where appropriate, includes the personnel and facilities employed to provide information pertaining to the availability of air navigation services and their associated procedures necessary for the safety, regularity and efficiency of air navigation.

**Airport.** This term is used interchangeably with aerodromes.

**Apron** A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

**Apron Management Service** A service provided to regulate the activities and the movement of aircraft and vehicles on an apron.

**Authority** Civil Aviation Authority Bahamas (CAA-B)

**Certified aerodrome** An aerodrome whose operator has been granted an Aerodrome Certificate.

**Controlled aerodrome** An aerodrome provided with air traffic control Services

**Director General** Means the Director General of the Civil Aviation Authority Bahamas

**Geoid** The equipotential surface in the gravity field of the Earth which coincides with the undisturbed Mean Sea Level (MSL) extended continuously through the continents.

*Note: The geoid is irregular in shape because of local gravitational disturbances (wind tides, salinity, current, etc.) and the direction of gravity is perpendicular to the geoid at every point.*

**Geoid undulation** The distance of the geoid above (positive) or below (negative) the mathematical reference ellipsoid.

*Note: In respect to the World Geodetic System – 1984 (WGS-84) defined ellipsoid, the difference between the WGS-84 ellipsoidal height and orthometric height represents WGS-84 geoid undulation.*

**Heliport** An aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.

**Instrument runway** One of the following types of runways intended for the operation of aircraft using instrument approach procedures:

- (a) *Non-precision approach runway.* An instrument runway served by visual aids and a non-visual aid providing at least directional guidance adequate for a straight-in approach.
- (b) *Precision approach runway, category I.* An instrument runway served by ILS and/or MLS and visual aids intended for operations with a decision height not lower than 60m (200 ft) and either a visibility not less than 800m or a runway visual range not less than 550m.
- (c) *Precision approach runway, category II.* An instrument runway served by ILS and/or MLS and visual aids intended for operations with a decision height lower than 60m (200 ft) but not lower than 30m (100 ft) and a runway visual range not less than 350m.
- (d) *Precision approach runway, category III.* An instrument runway served by ILS and/or MLS to and along the surface of the runway and:

- (1) intended for operations with a decision height lower than 30m (100ft), or no decision height and a runway visual range not less than 200m.
- (2) intended for operations with a decision height lower than 15m (50 ft), or no decision height and a runway visual range less than 200m but not less than 50m.
- (3) intended for operations with no decision height and no runway visual range limitations.

*Note 1: See ICAO Annex 10, Volume 1, Part 1, ILS and/or MLS specifications for related information.*

*Note 2: Visual aids need not necessarily be matched to the scale of non-visual aids provided. The criterion for the selection of visual aids is the conditions in which operations are intended to be conducted.*

**Manoeuvring area** That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

**Marking** A symbol or group of symbols displayed on the surface of the movement area in order to convey aeronautical information.

**Movement area** That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the aprons.

**Non-instrument Runway** A runway intended for the operation of aircraft using visual approach procedures.

**NOTAM or Notice to Airmen** Means a notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service or procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

**Obstacle** Any fixed (whether temporary or permanent) or mobile object or part thereof, which is located in an area intended for the surface movement of aircraft, or which extends above a defined surface intended to protect aircraft in flight.

**Obstacle limitation Surfaces** Means a series of surfaces that define the volume of airspace at and around an aerodrome to be kept free of obstacles in order to permit the intended aircraft operations to be conducted safely and to prevent the aerodrome from becoming unusable by the growth of obstacles around the aerodrome.

**Pavement Classification Number (PCN)** A number expressing the bearing strength of a pavement for unrestricted operations.

**Precision approach Runway** See 'Instrument runway'.

**Primary runway(s)** Runway(s) used in preference to others whenever conditions permit.



**Road** An established surface route on the movement area meant for the exclusive use of vehicles.

**Road-holding position** A designated position at which vehicles may be required to hold.

**Runway** A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

**Runway End Safety Area (RESA)** An area symmetrical about the extended runway centre line and adjacent to the end of the strip primarily intended to reduce the risk of damage to an aeroplane undershooting or overrunning the runway.

**Runway-holding Position** A designated position intended to protect a runway, an obstacle limitation surface, or an ILS/MLS Critical/sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorized by the aerodrome control tower.

**Runway strip** A defined area, including the runway and stop way if provided, that is intended:

- (a) to reduce the risk of damage to aircraft running off a runway; and
- (b) to protect aircraft flying over the area during take-off or landing operations.

**Safety Management System (SMS)** A system for the management of safety at aerodromes, including the organizational structure, responsibilities, procedures, processes and provisions for the implementation of aerodrome safety policies by an Aerodrome Operator, which provides for control of safety at, and the safe use of, the aerodrome.

**Shoulder** An area adjacent to the edge of a pavement so prepared as to provide a transition between the pavement and the adjacent surface.

## Sign

- (a) Fixed message sign. A sign presenting only one message.
- (b) Variable message sign. A sign capable of presenting several pre-determined messages or no message, as applicable.

**Stop-way** A defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.

**Take-off runway** A runway intended for take-off only.

**Taxiway** A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including:

- (a) Aircraft stand taxi-lane. A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.
- (b) Apron taxiway. A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.



- (c) Rapid exit taxiway. A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways thereby minimizing runway occupancy times.



## CHAPTER 2

### INTRODUCTION

#### 2.1 BAHAMAS CIVIL AVIATION ACT AND REGULATIONS

Civil Aviation Regulation (CAR AGA 1) requires that an aerodrome available for international operations with any type of aeroplane having a passenger seating configuration, excluding any pilot seats, of 30 or more; or domestic commercial operations with any type of aeroplane having a maximum take-off mass (MTOM) of 25,000 kg or more be certified in accordance with the requirements of the regulations.

Under the Civil Aviation Act, The Civil Aviation Authority Bahamas (CAA-B) is the responsible authority for the aerodrome certification process, continuous oversight and surveillance, and for promulgating appropriate and clear Aerodrome Standards to be complied with by Aerodrome Operators.

#### 2.2 ROLE/STATUS OF THE AERODROME MANUAL IN THE CERTIFICATION PROCESS

The Aerodrome Manual is a fundamental requirement of the certification process. It shall contain all the relevant information about the aerodrome for processing the application before granting an Aerodrome Certificate. The information presented in the Aerodrome Manual shall demonstrate that the aerodrome conforms to the certification standards and safety directives put forth by the CAA-B, and that there are no apparent shortcomings which would adversely affect the safety of aircraft operations. The manual shall be a reference document and provides a checklist of aerodrome certification standards to be maintained and the level of airside services at the aerodrome.

Information provided in the Aerodrome Manual will be the basis to assess the suitability of the aerodrome for the aircraft operations proposed and to judge an applicant's capability to be eligible to be granted a certificate. It is a basic reference guide for conducting site inspections for granting an Aerodrome Certificate and for subsequent continued surveillance/safety inspections. The Aerodrome Manual is a reference document agreed to between the Aerodrome Operator and the CAA-B with respect to the standards, conditions and the level of service to be maintained at the aerodrome.

The Aerodrome Manual shall contain all the relevant information to describe the management and operational structure. It is the means by which all aerodrome operating staff are fully informed as to their duties and responsibilities with regard to safety, including information and instructions related to those matters specified in the applicable regulation. It describes the aerodrome services and facilities, all operating procedures, and any restrictions in place.



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## CHAPTER 3

### PROCESS OF AERODROME CERTIFICATION

#### 3.1 THE PROCESS

The requirements for the certification of aerodromes in The Bahamas are contained within CAR AGA 1. The entire aerodrome certification process has been subdivided into five distinct stages with applicants being required to provide information and documents contained within CAR AGA 1.

The certification process is outlined below. Aerodromes that are required to be certified under CAR AGA 1 must be in possession of an Aerodrome Certificate before commencing operations. Applicants wishing to design, construct and operate an aerodrome under CAR AGA 1 should note that the process for the construction of an aerodrome is an integral part of the aerodrome certification process and would not terminate after the construction of the aerodrome. Such applicants are under obligation to complete the rest of the entire process before commencing operations.

Fundamentally, the aerodrome certification process comprises the following five phases:

(a) **Phase 1 – Pre-Application**

An expression of interest for an Aerodrome Certificate by the intending applicant to the CAA-B;

(b) **Phase 2 – Formal Application**

The CAA-B will assess the formal application;

(c) **Phase 3 – Assessment**

The CAA-B will assess the aerodrome facilities and equipment;

(d) **Phase 4 – Grant/Refusal of Certificate**

The CAA-B will issue or refuse the applicant the granting of an Aerodrome Certificate; and

(e) **Phase 5 – Certification**

The CAA-B shall promulgate the certified status of an aerodrome and the required details in the Aeronautical Information Publication.

#### 3.2 PHASE 1

##### 3.2.1 Expression of Interest

- (a) The Director General (DG) of the CAA-B must receive an expression of interest letter from the applicant and forwards to the Chief Inspector, AGA (CIAGA) for processing;



- (b) The CIAGA forms an Audit Team of competent and qualified staff that is appropriate to the size, scope and complexity of the operations anticipated;
- (c) The Audit Team Leader opens a file;

### **3.2.2 Initial Assessment**

The Audit Team carries out an initial assessment to ensure that the operation of an aerodrome at the location specified in the application will not endanger the safety of aircraft operations.

Assistance from flight operations or other relevant authority may be required; some of the factors to be considered in the selection of site for the development of an airport can be found in ICAO Doc 9184 Part 1 – Airport Master Planning. The applicant is advised to engage a suitably qualified expert for the conduct of a site identification study prior to any site assessment by the CAA-B.

The Audit Team leader forwards the assessment result to CIAGA detailing key observations, areas of concerns and a recommendation. If the assessment recommendation is to refuse the grant of an Aerodrome Certificate, then DG, through CIAGA advises the applicant accordingly.

### **3.2.3 Referrals to Land Use and Environmental Authorities**

If the assessment is successful, the CIAGA informs the applicant to consult the relevant State entities to obtain their clearance with respect to environmental impact, land use and security issues. In this regard the applicant would be required to obtain and provide written approval from the appropriate authority in charge of land use in the area in which the airport is to be sited.

The applicant will also be required to obtain and furnish CAA-B with a letter from the relevant environmental authority confirming that an Environmental Impact Assessment (EIA) has been satisfactorily conducted. A copy of this EIA shall be forwarded to the CAA-B.

Fulfilment of these requirements imply that the site is acknowledged as suitable and acceptable by all relevant Authorities.

### **3.2.4 Pre-Certification Meeting**

If the applicant satisfies the requirement of Phase 1, the Audit Team holds a certification meeting with the applicant's representatives in order to familiarise the applicant with the rest of the process. The applicant is advised on the required certification documents and these include CAR AGA 1 and this CAP. The applicant is advised to obtain other relevant publications issued by ICAO as necessary.

## **3.3 PHASE 2**

### **3.3.1 CAA-B Assessing the Formal Application**

Upon payment of required certification fee, the Audit Team leader issues the standard application form.



CAA-B would acknowledge the receipt of the application, giving an indication of the likely date when the processing would be completed. The application should be submitted with the detailed drawings of the aerodrome and facilities to be provided.

The Aerodrome Manual need not be submitted at this stage. The applicant may opt to submit his Aerodrome Manual after aerodrome development activities have been completed. If the applicant wishes to request deviation from any of the requirements, he may submit his application for deviation along with the completed Form or subsequently at a later date within this stage of the process.

### **3.3.2 Plans of the Aerodrome and Obstacle Chart**

The plans of the aerodrome should include documents incorporating concepts, plans and designs of the aerodrome facilities such as runway, taxiway, aprons, safety areas and strips, terminal and landside facilities including detailed obstacle chart. Detailed guidance on some of these subjects can be found in ICAO Doc 9157 series

### **3.3.3 Approval of Aerodrome Drawings and Project Monitoring**

CAA-B shall review the plans and drawings for the construction of the Aerodrome physical facilities to ensure that the requirements of CAR AGA 1 and related guidance documents are applied. Upon approval, CAA-B shall monitor construction of the project and provide relevant professional advice where appropriate until satisfactory project completion.

### **3.3.4 Payment of Aerodrome Certification Fee**

When the aerodrome development stage is satisfactorily completed, CAA-B will request the applicant to pay the appropriate aerodrome certification fees to cover further processing for the issuance of an Aerodrome Certificate.

Proof of payment would be made available before the Aerodrome Manual are received and evaluated.

### **3.3.5 Submission of the Aerodrome Manual**

The Audit Team assesses the Aerodrome Manual and ensures that the manual complies with CAA-B requirements, including Safety Management Systems which would indicate that the applicant will be able to operate and maintain the aerodrome safely before moving to the next phase. All verifications that can be completed or initiated in the office should be carried out.

The Aerodrome, Air Navigation and Airport Security Manuals shall be checked by the various audit teams using appropriate checklists to see if all the requirements under CAR AGA 1 have been met.

### **3.3.6 Particulars of proposed non-compliance with or deviation from requirements**

The particulars of proposed non-compliance or the application for deviation referred to in paragraph 2.1.2a shall be processed in line with the procedures discussed in Paragraph 2.2 of this CAP.

If all the above information provided by the applicant is verified as complete and accurate, CAA-B will proceed to the next step of the aerodrome certification process.

### 3.4 PHASE 3

#### 3.4.1 Assessment of Facilities and Equipment:

- (a) The audit team shall undertake a site visit for the purpose of assessing the aerodrome facilities, services and equipment to verify and ensure that they comply with the specified standards and practices. The assessment shall include a physical inspection of the following areas:
- (1) Verification of aerodrome data to be reported to the aeronautical information service.
  - (2) The checking of aerodrome facilities and equipment, which should include:
    - (i) Dimensions and surface conditions of:
      - ▷ Runway(s);
      - ▷ Runway shoulders;
      - ▷ Runway strip(s);
      - ▷ Runway end safety areas;
      - ▷ Stopway(s) and clearways;
      - ▷ Taxiway(s);
      - ▷ Taxiway shoulder(s);
      - ▷ Taxiway strips; and
      - ▷ Aprons
      - ▷ Runway turn pads
    - (ii) The presence of obstacles in obstacle limitation surfaces at and in the vicinity of the aerodrome;
    - (iii) The following aeronautical ground lights, including their flight check records:
      - ▷ Runway and taxiway lighting;
      - ▷ Approach lights



- ▷ PAPI/APAPI or T-VASIS/AT-VASIS;
  - ▷ Apron floodlighting;
  - ▷ Obstacle lighting;
  - ▷ Pilot-activated lighting, if applicable; and
  - ▷ Visual docking guidance systems;
- (iv) Standby power;
  - (v) Wind direction indicator(s);
  - (vi) Illumination of the wind direction indicator(s);
  - (vii) Aerodrome markings and markers;
  - (viii) Signs in the movement areas;
  - (ix) Tie-down points for aircraft;
  - (x) Ground earthing points;
  - (xi) Rescue and fire-fighting equipment and installations;
  - (xii) Aerodrome maintenance equipment, particularly for the airside facilities maintenance including runway surface friction measurement;
  - (xiii) Disabled aircraft removal equipment;
  - (xiv) Wildlife management procedures and equipment;
  - (xv) Two-way radios installed in vehicles for use by the Aerodrome Operator in the movement area;
  - (xvi) The presence of lights that may endanger the safety of aircraft; and
  - (xvii) Fuelling facilities.
- (3) Competence of operational and maintenance personnel;
  - (4) co-ordination with other service providers such as the Air Traffic Services, Meteorological Services, and Aeronautical Information Services;
  - (5) Provision of aerodrome security measures;
  - (6) Safety Management System in place (See section 3.4.3 below);



- (7) coordination with other agencies working at the aerodrome, such as fixed base operators, ground handling agencies to ensure safety;
  - (8) System for notification and reporting of all relevant information to the AIS;
  - (9) Procedures for reporting any penetrations of the aerodrome obstacle limitation surfaces, existence of any hazardous situation on or in the vicinity of the aerodrome, or closure of any part of the movement area, or of any work in progress that may have an impact on the safety of aircraft operations;
  - (10) Aerodrome Inspection Programme; and
  - (11) Contracts and oversight capabilities in respect to service providers.
- (b) After the field verification, the audit team shall document and communicate deficiencies identified during the audit to the applicant and also request a corrective plan of action from the applicant. CAA-B audit team shall monitor implementation of the corrective plan of action.

#### 3.4.2 Insurance Cover

Before proceeding to the next stage, CAA-B would require the applicant to provide an insurance cover for protection against damage or injury or accident arising from any area of operations at the aerodrome.

#### 3.4.3 Safety Management System

The details of the applicant's safety management system including:

- (a) the safety policy; safety organisation; safety manager's responsibilities, safety assessments; occurrence reporting; hazard identification;
- (b) risk assessment and risk management;
- (c) event investigation and analysis; performance monitoring;
- (d) safety promotion; and safety assurance.

*Note: Aerodrome Operators are expected to create a SMS Manual or a section within the Aerodrome Manual. Guidance can be obtained from;*

- (a) *www.icao.int/fsix;*
- (b) *CAR SMS; and*
- (c) *CAP GEN 01 – Safety Management Systems.*

### **3.5 PHASE 4**

#### **3.5.1 Grant/Refusal of Certificate**

- (a) If the corrective plan of action is satisfactorily implemented by the applicant, CAA-B would issue the applicant with an Aerodrome Certificate and endorse the conditions for the type of use of the aerodrome on the certificate. The grant of an Aerodrome Certificate obliges the Aerodrome Operator to ensure the safety, regularity and efficiency of operations at the aerodrome, to allow CAA-B-authorized personnel access to the aerodrome to carry out safety audits, inspections and testing and to be responsible for notifying and reporting as prescribed.
- (b) If after being advised of the additional steps that must be taken to rectify the deficiencies in the corrective plan of action, the applicant is still not able to satisfy the requirements of the regulations, the CAA-B may refuse to grant a certificate. The refusal may be based on one or more of the following determinations, for which details should be given:
- (1) The inspection of aerodrome facilities and equipment revealed that they do not make satisfactory provision for the safety of aircraft operations;
  - (2) The assessment of the aerodrome operating procedures revealed that they do not make satisfactory provision for the safety of aircraft operations;
  - (3) The assessment of the Aerodrome Manual revealed that it does not contain the particulars set out in CAA-B regulation and the associated schedule of the regulations; and
  - (4) The assessment of the above facts and other factors (to be listed) revealed that the applicant will not be able to properly operate and maintain the aerodrome as required by the regulation.

### **3.6 PHASE 5**

#### **3.6.1 Certificate**

The CAA-B will issue a certificate, which has no expiry date but subject to periodic oversight by the CAA-B. Failure to continue to meet the terms and conditions for the issue of the certificate may lead to variation, suspension or revocation under the Civil Aviation Act.

#### **3.6.2 Promulgation in the AIP of the certified status and details of the aerodrome**

Upon satisfactory completion of the certification process, information about the aerodrome should be provided to the aeronautical information service for publication.

### **3.7 EXEMPTIONS**

#### **3.7.1 General**

- (a) An application for an exemption is a request from an Aerodrome Operator to deviate

from the requirements of a regulation or part thereof. An application for an exemption to a provision of CAR AGA 1 may originate among others from Airport Operators for Aerodrome Certification purposes.

- (b) The CIAGA maintains a record of all exemptions issued by the CAA-B, and ensures that deviation information is published in the AIP through coordination with Aeronautical Information Service.

### **3.7.2 Receipt of Application for an Exemption**

- (a) CAR AGA 1 permits an Aerodrome Operator to apply to the CAA-B for an exemption. Any application for an exemption from any provision should be forwarded to the CAA-B for consideration. The application should contain the following:
  - (1) A compelling case to support why the proposed exemption should be granted.
  - (2) The provision of any information and documentation to support the case that the exemption is:
    - (i) in the public interest; and
    - (ii) not likely to affect aviation safety.
  - (3) Propose conditions that would mitigate any risk that could be created by virtue of the deviation to ensure that aviation safety will not be affected.

## **3.8 POST CERTIFICATION**

### **3.8.1 Aerodrome Operator's Obligations**

- (a) An aerodrome that is granted an Aerodrome Certificate under the applicable regulations needs to keep the certificate current and any change in the level of facilities, services and equipment needs to be brought to the attention of CAA-B without delay. Any necessary amendments to the Aerodrome Manual must be carried out in consultation with the CAA-B with a final copy being registered with the CAA-B as required by CAR AGA 1.
- (b) To meet the above obligations, the Aerodrome Operator is required to have a continuous compliance monitoring process which shall include audits and inspections of the aerodrome facilities, services and equipment as well as of the Aerodrome Safety Management System, including the Aerodrome Operator's own functions. The Aerodrome Operator shall also be required to arrange for an external audit and inspection programme for evaluating other airport users, including fixed-base operators, ground handling agencies and other organisations working at the aerodrome. Alternately, the internal audit results of these agencies may be acceptable if the results meet or exceed the minimum requirements and do not conflict with the aerodrome's own safety policies.

- (c) The certified aerodrome must have a programme of carrying out specific inspections following an accident/incident at the aerodrome as well as after any construction/maintenance activity which will have a bearing on the operational safety of aircraft at the aerodrome.

### 3.8.2 Continued Surveillance and Oversight by the CAA-B

Periodic audits and inspections by Aerodrome Inspectors of the CAA-B will be necessary to ensure that the Aerodrome Operator meets their obligations under the terms of the Aerodrome Certificate and that the aerodrome continues to maintain the level of safety as at the time of initial certification. The CAA-B will liaise with Aerodrome Operators in advance of audits and inspections to allow for preplanning and to ensure the availability of key personnel, but will also conduct “no notice” unplanned visits. CAA-B Inspectors will be granted unrestricted access to the Aerodrome in order for them to conduct their delegated tasks.

To this end, the CAA-B authorised persons may inspect and carry out tests on the aerodrome facilities, services and equipment, inspect the Aerodrome Operator’s documents and records and verify the Aerodrome Operator’s Safety Management System before the Aerodrome Certificate is renewed and, subsequently, at any other time, for the purpose of ensuring safety at the aerodrome. Any deviation from the agreed Aerodrome Manual will be brought to the attention of the Aerodrome Operator for developing an action plan to resolve the situation that would have a bearing on the aerodrome’s operational safety.

Such periodic inspections will be organised as follows:

- (a) Pre-inspection briefing with aerodrome management, including coordination with Air Navigation Service Provider personnel.
- (b) Administrative inspection of the Aerodrome Safety Management System.
- (c) Movement area inspections including the inspection and checking of runways and taxiways, markings, lighting, signs, shoulders, strips and runway end safety areas; checking for potentially hazardous conditions if construction work is in progress; checking ground vehicle operations in the movement area; checking for wildlife hazards and wildlife attractants; and checking landing direction indicators and wind direction indicators.
- (d) Rescue and fire-fighting services, their training records; category requirements; response time tests; vehicle and equipment checks, personal and respiratory protective equipment.
- (e) Fuel facilities including spot checking, fuel sampling, for compliance with the applicable requirements.
- (f) Night inspections of runway, taxiway and apron lighting and signage; pavement markings; aerodrome beacons; wind direction indicator lighting; obstacle lighting and the marking and lighting of construction areas.
- (g) Post inspection briefing with the aerodrome management, including the determination of appropriate enforcement action for non-compliance with the regulations.



### 3.8.3 Additional Inspector Functions

Other safety functions which may require to be addressed by the Aerodrome Inspector are;

- (a) a first-hand evaluation of full-scale airport emergency exercises to identify problems and deficiencies;
- (b) the provision of guidance at the design and construction stages of aerodrome projects, particularly complex projects or where there is significant work that may impact compliance with the regulations;
- (c) final inspection of completed projects involving complex or significant work to identify problems or deficiencies that need to be corrected in order to comply with the requirements of the regulations;
- (d) the organisation of, and participation in, aerodrome safety seminars and other training programmes to promote a safety culture.

## 3.9 COMPLIANCE AND ENFORCEMENT

### 3.9.1 General

Aviation safety at aerodromes depends primarily on adherence to these requirements by Aerodrome Operators. Promoting compliance with the regulations through education, training and counselling is therefore of primary importance, and only when these efforts have failed would formal enforcement action be taken. Administrative action in the form of a warning letter or correction letter may be considered appropriate when legal action is deemed unnecessary.

Administrative enforcement action is intended to bring the violation to the attention of the Aerodrome Operator, to document corrective action and to require future compliance. Such actions are warranted when the violation does not result in a significant unsafe condition, is not caused by incompetence or lack of required qualifications on the part of the Aerodrome Operator, is not deliberately caused, the attitude of the operator is constructive and positive towards compliance with the regulations and there is no history of such a violation by the operator.

Formal legal enforcement action may be warranted to prevent future violations of the regulations.

Such action may include the issuance of cease-and-desist orders and injunctions and the imposition of sanctions after the act to deter violations. Such sanctions may include revocation, suspension or variation of the Aerodrome Certificate. Legal enforcement actions are pursuant to appropriate statutory provisions in the Civil Aviation Act.

### 3.9.2 Suspension or Variation of an Aerodrome Certificate

Suspension or Variation of an Aerodrome Certificate may be considered if:

- (a) the Aerodrome Operator's Safety Management System is found to be inadequate;



- (b) it is in the interest of operational safety;
- (c) all other means for timely correction of the unsafe condition or ensuring safe aircraft operations have not yielded the required results;
- (d) the technical proficiency or qualifications of the Aerodrome Operator to perform the duties to meet the critical safety requirements in accordance with the regulations are found inadequate;
- (e) the Aerodrome Operator resists or is unwilling to take action to correct or mitigate the condition affecting aviation safety; or
- (f) the Aerodrome Operator wilfully fails to perform an already agreed upon corrective action and suspension of the Aerodrome Certificate is the last resort to avoid unsafe operations in the aerodrome movement area.

### 3.9.3 Revocation of an Aerodrome Certificate

Revocation of an Aerodrome Certificate may be warranted if the Aerodrome Operator;

- (a) is incapable or unwilling to carry out corrective action or has committed/repeated serious violations;
- (b) has demonstrated a lack of responsibility, such as deliberate and flagrant acts of non-compliance or falsification of records jeopardizing aviation safety; or
- (c) has made it convincingly clear that the continued operation of the aerodrome will be detrimental to the public interest.



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## CHAPTER 4

### AERODROME MANUAL

#### 4.1 INTRODUCTION

##### 4.1.1 Overview

The Aerodrome Manual is a fundamental requirement of the certification process. It shall contain all the relevant information about the aerodrome as stipulated in CAR AGA 1 for processing the application before granting an Aerodrome Certificate.

The Aerodrome Manual, which may be provided in separate parts, should set out the applicant's general policies, the duties and responsibilities of personnel and procedures, and the instructions and information necessary to permit aerodrome personnel to perform their duties with a high degree of safety.

The person(s) responsible for the amendment of the manual, the list of effective pages, revision number and control of manual copies must be stated in this section.

The size, as well as the number of volumes, of the Aerodrome Manual will depend upon the size and complexity of the aerodrome and its operations. Aerodrome operators are reminded that once the Aerodrome Manual is approved an Aerodrome operator shall supply the CAA-B with intended amendments and revisions in advance of the effective date, which from experience would normally be a period of not less than 60 days.

*Note: All amendments should be submitted to the CAA-B through the Aerodrome Manager or Accountable Manager or an agreed coordinator.*

When the amendment concerns any part of the Aerodrome Manual this approval shall be obtained before the amendment becomes effective so proposed amendments must be submitted with a future date.

When immediate amendments or revisions are required in the interests of safety or security, they may be published and applied immediately in the form of a temporary revision to the Aerodrome Manual, or by means of an Information Notice, and be incorporated in the Aerodrome Manual, if appropriate, at the next formal revision.

The amendment process must be a controlled sequence of events with close coordination between the aerodrome operator and the CAA-B. This will allow a proper review of the amended material to take place and any approval to be issued or amended. The use of the provision for immediate amendments or revisions should be limited to those occasions where they are the only means available of securing the interests of safety or security.

##### 4.1.2 Information to be included in the Aerodrome Manual

Information provided in the Aerodrome Manual will be the basis to assess the suitability of the aerodrome for the aircraft operations proposed and to judge an applicant's capability to be eligible to be granted an aerodrome certificate

The following sets out the items which should be included in the Aerodrome Manual, though it is recognised that the need to include additional items will vary between aerodromes dependent upon the nature and scale of operations.

#### **4.1.3 Structure of Manual**

The manual should be structured in the following six Parts and an example can be found in CAP AGA 07.

- (a) Part 1 – General
- (b) Part 2 – Organisation
- (c) Part 3 - Particulars of the Aerodrome Site
- (d) Part 4 - Particulars of the Aerodrome Required to be Reported to the AIS
- (e) Part 5 - Aerodrome Operating Procedures and Safety Measures
- (f) Part 6 - Aerodrome Administration and Safety Management System

### **4.2 PART 1 - GENERAL**

#### **4.2.1 General Aerodrome Information**

General information, including the following:

- (a) Purpose and scope of the Aerodrome Manual;
- (b) The legal requirement for an Aerodrome Certificate and an Aerodrome Manual as prescribed in CAR AGA 1;
- (c) Conditions for use of the aerodrome – a statement to indicate that the aerodrome shall at all times when it is available for the take-off and landing of aircraft, be so available to all persons on equal terms and conditions;
- (d) The available aeronautical information services and procedures for timely and accurate effecting promulgation of AIP Amendment, AIP Supplement or NOTAM
- (e) The system for recording aircraft movements;
- (f) Obligations of the Aerodrome Operator;
- (g) A table to indicate the aerodrome and Aerodrome Operator's compliance status with each clause of CAR AGA 1 requirements;
- (h) Service Level Agreements between the Aerodrome Operator and ATS on areas of coordination such as Aerodrome Emergency Planning, aerodrome condition reporting, aerodrome vehicle operations etc.; and

- (i) A foreword, list of effective pages, revision record, distribution list.

#### **4.3 PART 2 - ORGANISATION**

- (a) An aerodrome organisational chart showing the names and positions of management personnel.
- (b) Functions and responsibilities of management personnel.
- (c) Airport committees, including Safety and Facilitation, Fauna, Emergency, and any other committee established by the aerodrome operator to ensure aerodrome safety and operation.

#### **4.4 PART 3 - PARTICULARS OF THE AERODROME SITE**

General information, including the following:

- (a) A plan of the aerodrome showing the main aerodrome facilities for the operation of the aerodrome including the location of each wind direction indicator;
- (b) A plan of the aerodrome showing the aerodrome boundaries;
- (c) A plan showing the distance of the aerodrome from the city or other populous area, and the location of any aerodrome facilities and equipment outside the boundaries of the aerodrome; and
- (d) Particulars of the title of the aerodrome site. If the boundaries of the aerodrome are not defined in the title documents particulars of the title to, or interest in, the property on which the aerodrome is located and a plan showing the boundaries and position of the aerodrome.

#### **4.5 PART 4 - PARTICULARS OF THE AERODROME REQUIRED TO BE REPORTED TO THE AIS**

##### **4.5.1 General**

General information, including the following:

- (a) The name of the aerodrome;
- (b) The location of the aerodrome;
- (c) The geographical coordinates of the aerodrome reference point determine in terms of the World Geodetic System – 1984 (WGS-84) reference datum;
- (d) The aerodrome elevation and geoid undulation;

- (e) The elevation of each threshold and geoid undulation, the elevation of the runway end and any significant high and low points along the runway, and the highest elevation of the touchdown zone of a precision approach runway;
- (f) The aerodrome reference temperature;
- (g) Details of the aerodrome beacon; and
- (h) The name of the Aerodrome Operator and the address and telephone number at which the Aerodrome Operator may be contacted at all times.

#### 4.5.2 Aerodrome Dimensions and Related Information

General information, including the following:

- (a) Runway – true bearing, designation number, length, width, displaced threshold location, slope, surface type, type of runway and, for a precision approach runway, the existence of an obstacle free zone;
- (b) Length, width and surface type of strip, runway end safety areas stop-ways;
- (c) Length, width and surface type of taxiways;
- (d) Apron surface type and aircraft stands;
- (e) Clearway length and ground profile;
- (f) visual aids for approach procedures, *via*, approach lighting type and visual approach slope indicator system (PAPI/APAPI and T-VASIS/AT-VASIS); marking and lighting of runways, taxiways, and aprons; other visual guidance and control aids on taxiways (including runway holding positions, intermediate holding positions and stop bars) and aprons, location and type of visual docking guidance system; availability of standby power for lighting.
- (g) The location and radio frequency of VOR aerodrome checkpoints;
- (h) The location and designation of standard taxi routes;
- (i) The geographical coordinates of each threshold;
- (j) The geographical coordinates of appropriate taxiway centre line points;
- (k) The geographical coordinates of each aircraft stand;
- (l) The geographical coordinates and the top elevation of significant obstacles in the approach and take-off areas, in the circling area and in the vicinity of the aerodrome. (This information may best be shown in the form of charts such as those required for the preparation of aeronautical information publications, as specified in Annexes 4 and 15 to the Convention);



- (m) Pavement surface type and bearing strength using the Aircraft Classification Number – Pavement Classification Number (ACN-PCN) method;
- (n) One or more pre-flight altimeter check locations established on and apron and their elevation;
- (o) Declared distances: take-off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA), landing distance available (LDA);
- (p) disabled aircraft removal plan: the telephone/telex/facsimile numbers and email address of the aerodrome coordinator for the removal of a disabled aircraft on or adjacent to the movement area, information on the capability to remove a disabled aircraft, expressed in terms of the largest type of aircraft which the aerodrome is equipped to remove; and
- (q) rescue and fire-fighting: the level of protection provided, expressed in terms of the category of the rescue and fire-fighting services, which should be in accordance with the longest aeroplane normally using the aerodrome and the type and amounts of extinguishing agents and rescue and fire-fighting vehicles normally available at the aerodrome.

*Note: The accuracy of the information above is critical to aircraft safety. Information requiring engineering survey and assessment should be gathered or verified by qualified technical persons.*

## **4.6 PART 5 - AERODROME OPERATING PROCEDURES AND SAFETY MEASURES**

### **4.6.1 Aerodrome Reporting**

Particulars of the procedures for reporting any changes to the aerodrome information set out in the AIP and procedures for requesting the issue of NOTAMS, including the following:

- (a) Arrangement for reporting any changes to the CAA-B and recording the reporting of changes during and outside the normal hours of aerodrome operations;
- (b) The names and roles of persons responsible for notifying the changes, and their telephone numbers during and outside the normal hours of aerodrome operations; and
- (c) The address and telephone numbers, as provided by the CAA-B, of the office where changes are to be reported to the CAA-B.

### **4.6.2 Access to the Aerodrome Movement Area**

Particulars of the procedures that have been developed and are to be followed in coordination with the agency responsible for preventing unlawful interferences in civil aviation at the aerodrome and for preventing unauthorized entry of persons, vehicles, equipment, animals or other things into the movement area, including the following:

- (a) the role of the Aerodrome Operator, the aircraft operator, aerodrome fixed base operators, the aerodrome security entity, the CAA-B and other government departments, as applicable; and
- (b) The names and roles of the personnel responsible for controlling access to the aerodrome, and the telephone numbers for contacting them during and after working hours.

#### 4.6.3 Aerodrome Emergency Plan

Particulars of the aerodrome emergency plan, including the following:

- (a) plans for dealing with emergencies occurring at the aerodrome or in its vicinity, including the malfunction of aircraft in flight; structural fires; sabotage, including bomb threats (aircraft or structure); unlawful seizure of aircraft; and incidents on the airport covering “during the emergency” and “after the emergency” considerations;
- (b) Details of test for aerodrome facilities and equipment to be used in emergencies, including the frequency of those tests;
- (c) Details of exercises to test emergency plans, including the frequency of those exercises;
- (d) a list of organizations, agencies and persons of authority, both on- and off airport, for site roles; their telephone and facsimile numbers, e-mail addresses and the radio frequencies of their offices;
- (e) The establishment of an aerodrome emergency committee to organize training and other preparations for dealing with emergencies; and
- (f) The appointment of an on-scene commander for the overall emergency operation.

#### 4.6.4 Rescue and Firefighting

Particulars of the facilities, equipment, personnel and procedures for meeting the rescue and fire-fighting requirements, including the names and roles of the persons responsible for dealing with the rescue and firefighting services at the aerodrome

*Note: This subject should also be covered in appropriate detail in the aerodrome emergency plan.*

#### 4.6.5 Inspection of the Aerodrome Movement Area and Obstacle Limitation Surface

Particulars of the procedures for the inspection of the aerodrome movement area and obstacle limitation surfaces, including the following:

- (a) Arrangement for carrying out inspections, including runway friction and water-depth measurements on runways and taxiways, during and outside the normal hours of aerodrome operations;

- (b) Arrangement and means of communicating with the aerodrome air traffic control unit during an inspection;
- (c) Arrangements for keeping an inspection logbook, and the location of the logbook;
- (d) Details of inspection intervals and times;
- (e) Inspection checklists;
- (f) Arrangement for reporting the results of inspections and for taking prompt follow-up actions to ensure correction of unsafe conditions; and
- (g) The names and roles of persons responsible for carrying out inspections, and their telephone number during and after working hours.
- (h) Procedures to monitor and report the condition of movement areas.
- (i) Procedures to report the presence of water on runway.
- (j) Procedures to report slippery runway condition

#### **4.6.6 Visual Aids and Aerodrome Electrical Systems**

Particulars of the procedures for the inspection and maintenance of aeronautical lights (including obstacle lighting), signs, markers and aerodrome electrical systems, including the following:

- (a) Arrangement for carrying out inspections during and outside the normal hours of aerodrome operation, and the checklist for such inspection;
- (b) Arrangements for recording the results of inspections and for taking follow up action to correct deficiencies;
- (c) Arrangements for carrying out routine maintenance and emergency maintenance;
- (d) Arrangements for secondary power supplies, if any, and, if applicable, the particulars of any other method of dealing with partial or total system failure; and
- (e) The names and roles of the persons responsible for the inspection and maintenance of the lighting, and the telephone numbers for contacting those persons during and after working hours.
- (f) Submission of a signage and SMGCS plan.
- (g) Procedure to prevent aircraft from entering permanently closed runways and taxiways.

#### **4.6.7 Maintenance of the Movement Area**

Particulars of the facilities and procedures for the maintenance of the movement area, including:

- (a) Arrangements for maintaining the paved areas;
- (b) Arrangements for maintaining the unpaved runways and taxiways;
- (c) Arrangements for maintaining the runway and taxiway strips; and
- (d) Arrangements for the maintenance of aerodrome drainage.

#### **4.6.8 Aerodrome Work Safety**

Particulars of the procedures for planning and carrying out construction and maintenance work safely (including work that may have to be carried out at short notice) on or in the vicinity of the movement area which may extend above an obstacle limitation surface, including the following:

- (a) Arrangements for communicating with the aerodrome air traffic control unit during the progress of such work;
- (b) The names, telephone numbers and roles of the persons and organizations responsible for planning and carrying out the work, and arrangements for contacting those persons and organizations at all times;
- (c) The names and telephone numbers, during and after working hours, of the aerodrome fixed-based operators, ground handling agents and aircraft operators who are to be notified of the work.
- (d) A distribution list for work plans, if required.
- (e) Procedure to return a runway to operational status after pavement overlay

#### **4.6.9 Apron Management**

Particulars of the apron management procedures, including the following:

- (a) Arrangements between air traffic control and the apron management units;
- (b) Arrangements for allocating aircraft parking positions;
- (c) Arrangements for initiating engine start and ensuring clearance of aircraft push-back; and
- (d) Marshalling service.

#### **4.6.10 Apron Safety Management**

Procedures to ensure apron safety, including:

- (a) Protection from jet blasts;
- (b) Enforcement of safety precautions during aircraft refuelling operations;



- (c) Apron sweeping;
- (d) Apron cleaning;
- (e) Arrangements for reporting incidents/accidents on an apron; and
- (f) arrangements for auditing the safety compliance of all personnel working on the apron.

#### **4.6.11 Airside Vehicle Control**

Particulars of the procedure for the control of surface vehicles on or in the vicinity of the movement area, including the following:

- (a) details of the application of traffic rules (including speed limits and the means of enforcing the rules); and
- (b) the method of issuing driving permits for operating vehicles in the movement area.

#### **4.6.12 Wildlife Hazard Management**

Particulars of the procedures to deal with the danger posed to aircraft operations by the presence of bird or mammals in the aerodrome flight pattern or movement area, including the following:

- (a) arrangements for assessing wildlife hazards;
- (b) arrangements for implementing wildlife control programmes; and
- (c) the names and roles of the persons responsible for dealing with wildlife hazards, and their telephone numbers during and after working hours.

#### **4.6.13 Obstacle Control**

Particulars setting out the procedures for:

- (a) monitoring the obstacle limitation surfaces and Type A Chart for obstacle in the take-off surface;
- (b) controlling obstacles within the authority of the operator;
- (c) monitoring the height of buildings or structures within the boundaries of the obstacle limitation surfaces;
- (d) controlling new developments in the vicinity of aerodromes; and
- (e) notifying the CAA-B of the nature and location of obstacles and any subsequent addition or removal of obstacles for action as necessary, including amendment of the AIS publications.

#### 4.6.14 Removal of Disabled Aircraft

Particulars of the procedures for removing a disabled aircraft on or adjacent to the movement area, including the following:

- (a) the role of the Aerodrome Operator and the holder of the aircraft certificate of registration;
- (b) arrangements for notifying the holder of the certificate of registration;
- (c) arrangements for liaising with the aerodrome air traffic control unit;
- (d) arrangements for obtaining equipment and personnel to remove the disabled aircraft; and
- (e) the names, role and telephone numbers of persons responsible for arranging for the removal of disabled aircraft

#### 4.6.15 Handling of Hazardous Materials

Particulars of the procedures for the safe handling and storage of hazardous material on the aerodrome, including the following:

- (a) arrangements for special areas on the aerodrome to be set up for the storage of inflammable liquids (including aviation fuels) and any other hazardous materials; and
- (b) the method to be followed for the delivery, storage, dispensing and handling of hazardous materials.

*Note: Hazardous materials include inflammable liquids and solid, corrosive liquids, compressed gases and magnetized or radioactive materials. Arrangements for dealing with the accidental spillage of hazardous materials should be included in the aerodrome emergency plan.*

#### 4.6.16 Low-visibility operations

Particulars of procedures to be introduced for low-visibility operations, including the measurement and reporting of runway visual range as and when required, and the names and telephone numbers, during and after working hours, of the persons responsible for measuring the runway visual range.

#### 4.6.17 Protection of sites for Radar and Navigational Aids

Particulars of the procedures for the protection of sites for radar and radio navigational aids located on the aerodrome to ensure that their performance will not be degraded, including the following:

- (a) arrangements for the control of activities in the vicinity of radar and nav aids installations;

- (b) arrangements for ground maintenance in the vicinity of these installations; and
- (c) arrangements for the supply and installation of signs warning hazardous microwave radiation.

*Note 1: In writing the procedures for each category, clear and precise information should be included on:*

- *when, or in what circumstances, an operating procedure is to be activated*
- *how an operating procedure is to be activated;*
- *actions to be taken;*
- *the person/s who are to carry out the actions; and*
- *the equipment necessary for carrying out the actions, and access to such equipment.*

*Note 2: If any of the procedures specified above are not relevant or applicable, the reason should be given.*

## **4.7 PART 6 - AERODROME ADMINISTRATION AND SAFETY MANAGEMENT SYSTEM**

### **4.7.1 Aerodrome Administration**

Particulars of the aerodrome administration, including the following:

- (a) an aerodrome organizational chart showing the names and positions of key personnel, including their responsibilities;
- (b) the name, position and telephone number of the person who has overall responsibility for aerodrome safety;
- (c) airport committees; and
- (d) particulars of staff training and competency, including the specifications of staff qualifications and experience, training and programme for upgrading of skills provided to staff on safety-related duties, and where necessary, the certification system for testing their competency.

### **4.7.2 Safety Management System (SMS)**

Particulars of the SMS established for ensuring compliance with all safety requirements and achieving continuous improvement in safety performance, the essential features being:

- (a) the safety policy, insofar as applicable, on the safety management process and its relation to the operational and maintenance process;

- (b) the structure or organization of the SMS, including staffing and the assignment of individual and group responsibilities for safety issues;
- (c) SMS strategy and planning, such as setting safety performance targets, allocating priorities for implementing safety initiatives and providing a framework for controlling the risks to as low a level as is reasonably practicable keeping always in view the requirements of the Standards and Recommended Practices in Volume I of Annex 14 to the Convention on International Civil Aviation, and the national regulations, standards, rules or orders.
- (d) SMS implementation, including facilities, methods and procedures for the effective communication of safety messages and the enforcement of safety requirements;
- (e) a system for the implementation of, and action on, critical safety areas which require a higher level of safety management integrity (safety measures programmes);
- (f) measures for safety promotion and accident prevention and a system for risk control involving analysis and handling of accidents, incidents, complaints, defects, faults, discrepancies and failures, and continuing safety monitoring;
- (g) The internal safety audit and review system detailing the systems and programmes for quality control of safety;
- (h) The system for documenting all safety-related airport facilities as well as airport operational and maintenance records, including information on the design and construction of aircraft pavements and aerodrome lighting. The system should enable easy retrieval of record including charts; and
- (i) The incorporation and enforcement of safety-related clauses in the contracts for construction work at the aerodrome.

*Note: Refer to CAP GEN 01 – Safety Management Systems for more guidance.*

#### **4.7.3 Service Level Agreements with Designated Service Providers**

To ensure the safety of aeroplane operations at the aerodrome and in the associated airspace, the applicant will be required to coordinate with designated service providers and arrange for the provision of aeronautical information services, air traffic control services, rescue and fire-fighting services and aviation security services.

The applicant is therefore required to enter into a technical agreement with the entities or agencies responsible for providing air traffic control, aeronautical information, aviation rescue and fire-fighting services and security services as may be applicable at the aerodrome. In this connection, the applicant should submit to CAA-B:

- (a) A copy of the Service Level Agreement signed between the applicant and the prospective aviation security service provider at the aerodrome, and a copy of the approved airport security programme detailing the arrangement in place at the airport to ensure optimum implementation of aviation security measures.



- (b) A copy of Service Level Agreement signed between the applicant and prospective air traffic service provider at the aerodrome setting out the technical terms under which the services are to be provided.
- (c) A copy of the Service Level Agreement signed between the applicant and the prospective aeronautical information service provider at the aerodrome to ensure accurate, up-to-date and timely information of aerodrome related safety condition is provided to aviation service users.
- (d) A copy of the Service Level Agreement signed between the applicant and the prospective rescue and firefighting service provider at the aerodrome to ensure an effective and efficient rescue and firefighting service is provided in accordance with CAA-B requirements during the hours of airport operation.



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## CHAPTER 5

### DEVELOPMENT AT A CERTIFIED AERODROME

#### 5.1 GENERAL

##### 5.1.1 Introduction

The CAA-B must be informed in advance of any development proposed at certified aerodromes. CAR AGA 1 requires an Aerodrome Operator to notify CAA-B in writing before effecting any change to the aerodrome facility or equipment or level of service.

##### 5.1.2 Purpose

The purpose of this chapter is to advise those persons proposing to alter the status or use of an airport of the requirement to notify the Authority of their plans. It also outlines some of the airspace utilization factors that should be considered early in the planning stages.

##### 5.1.3 Why notice is required

Prior notice is required to assure conformity to plans and policies for, and allocations of, airspace by the Authority. The ANSP, after receiving such notice, will advise as to the effect the proposed construction or alteration would have on the use of the navigation airspace by aircraft.

##### 5.1.4 How to submit notice

Notice shall be submitted to the Authority at least 30 days in advance of the day that work is to begin.

#### 5.2 PROJECT REQUIRING NOTICE

The following are some of the changes that may require notification to the Authority by the operator:

- (a) Construct, realign, alter, activate or deactivate any runway or other aircraft landing or take-off area of an airport.
- (b) Construct, realign, activate, deactivate, abandon, or discontinue using a taxiway associated with a landing or take-off area on a public- use airport.
- (c) Change the status of an airport from private use to public use or from public use to another status.
- (d) Change any traffic pattern or traffic pattern altitude or direction.
- (e) Change status from instrument flight rules (IFR) to visual flight rules (VFR) or VFR to IFR or;
- (f) Change any utility infrastructure

### 5.3 AIRSPACE UTILISATION CONSIDERATION

The Aerodrome Operator will conduct a study to determine the effect of the airport development proposal on the safe and efficient use of aerodrome by aircraft. Some of the factors considered in the study are:

- (a) Existing or contemplated traffic patterns of neighbouring airports;
- (b) The effects the proposed action would have on the existing aerodrome structure.
- (c) The effects that existing or proposed manmade objects and natural objects within the affected area would have on the airport proposal.

### 5.4 CONTENT OF THE DEVELOPMENT PROPOSAL REPORT

The development proposal report shall include the following, as applicable:

- (a) **Scope of Work.** This paragraph provides a brief outline of the scope of the works involved in this development, the purpose being to present an overall picture of the extent of the proposal.
- (b) **Schedule of Work.** A list is required detailing the planned start and finish dates of each phase, and the planned hours of operation preferably in UTC. For example
  - ▷ Terminal Building works commence 23 April 2021 - To finish by November 2021
  - ▷ Taxiway works commence 18 May 2021 - To finish by April 2021
  - ▷ Terminal day working only 07;30 to 1900 Monday to Friday
  - ▷ 0800 to 1800 Sat to Sunday
  - ▷ All times are UTC; or
  - ▷ Taxiway night working only 21.00 UTC to 06.00 UTC Monday to Friday nights inclusive
- (c) **Outline Plans and Drawings.** Outline plans should be available to CAA-B in sufficient time to allow the various departments to consider the impact the development may have on their particular disciplines. This will help to ensure that subsequent meetings achieve the maximum benefit

The Plans must include the means to determine that the requirement of CAR AGA 1 have been complied with.

Should the development include alterations to, or the installation of, aerodrome signage, color drawings of all the proposed signs and their locations is to be included, preferably on a single sheet showing the whole airfield, displaying the signs as they would be installed.



Any lighting plan including illuminated signage, should conform with the requirements of CAR AGA 1, and be included. Sufficient information should be provided to enable an operational assessment to be made.

- (d) **Airspace Issues.** Some developments will have an impact on Airspace, Arrival and Departure, Circling, and Missed Approach procedures. It is essential that CAA-B be advised of such development proposals as early as possible. CAA-B would wish to see that the report considered such implications, together with any effect the development may have on aerodrome equipment e.g. Approach Lighting, PAPI positioning and Navigation Aids. Survey information must be provided if procedures need to be changed.
- (e) **Air Traffic Control.** Consideration should be given to the fact that developments frequently affect the ability of air traffic control providers to maintain the required levels of safety, both during and after the process. As a result, the report should consider:
- (1) The line of sight implication from the ATC tower to the development area, in good and reduced visibility conditions.
  - (2) Any tendency for reflective surfaces to distract or dazzle air traffic controllers.
  - (3) Any potential increase in ATC workload either temporarily or permanent.
  - (4) Any effect the development may have on Lighting Control and ATC procedures
  - (5) The development plan should indicate that consultation with the aerodrome's air traffic control provider has taken place, and a representative of the provider should be invited to attend development meetings where appropriate.
- (f) **Wildlife Hazard Risk and Environmental Impact Assessment (EIA)** Development that includes landscaping schemes should be assessed for their impact on the wildlife hazard risk to the aerodrome. EIA report presented to the relevant environmental authorities and the attendant approval obtained from the authority should be provided as a separate attachment to the report.
- Note: Refer to CAP AGA 04 – Wildlife Hazard Management.*
- (g) **Manuals.** The proposal should indicate that the project team has considered what alterations should be made to the Aerodrome Manual and other affected documents.
- (h) **Hazard Appraisal and Risk Assessment.** The report should show the method used to assess the risks and hazards associated with the development. The conclusions should be clearly stated and preferably summarised, and copies of supporting documents and statement should be included.
- (i) **Any Special Safety Measures.** Each development is unique. The development team should show that the project has been assessed to determine what special safety measures may be required, and what actions are planned that is deemed to be appropriate.

- (j) **Focal Points.** The report should list the name position and contact telephone number of the person who holds overall responsibility for the project and the name of the person within the aerodrome management who would be the focal point of contact for the project. The focal point of contact within the CAA-B is the CIAGA.
- (k) **Annexes.** The list of attachments, drawings and appendices should be included as a paragraph

## 5.5 CONSULTATION WITH INTERESTED PERSONS

As part of the review of the aeronautical study, CAA-B may consult with interested persons regarding the substance of the proposal. This consultation may be accomplished through interviews, conferences, informal airspace meetings, or through the distribution of circulars describing the proposal and offering a prescribed period of time within which the public may submit comments on the proposal.

## 5.6 CAA-B REVIEW

### 5.6.1 Determination

The CAA-B shall review the development proposal study report conducted by the operator. The purpose of a review of the report is to give to the proponent in the form of a CAA-B determination. These determinations will indicate the following:

- (a) Identification of the objectionable aspects of a project or action and specify the conditions which must be met and sustained to preclude an objectionable determination.
- (b) That the project will not adversely affect the safe and efficient use of airspace by aircraft (reasons for issuing such a determination will be given).

### 5.6.2 Compliance with Local or Bahamian legal requirements

A CAA-B determination does not relieve the proponent of responsibility for compliance with any local law, ordinance or regulation, or other Bahamian regulation.

### 5.6.3 Management of the Development process

The primary objective of the Authority is to improve safety in partnership with the industry, and ensure that the frequency of fatal accidents does not increase in line with forecast traffic growth.

## 5.7 APPLICATION PROCESS

### 5.7.1 Initial Actions

To initiate the development procedure, the Aerodrome Certificate Holder should appoint a project co-coordinator who shall liaise with CAA-B representative. The CAA-B representative shall prepare a specific case file which will be opened for the project. The aerodrome project manager shall communicate directly with the CAA-B representative about the development, throughout the duration of the project.

For major projects an Initial Development Meeting (IDM) will be held to brief the CAA-B on the project. The aerodrome management will be responsible for providing a written brief and minutes (for this and subsequent meetings). It is important that all areas affected by the development are covered at the IDM and that all necessary disciplines within the CAA-B are invited to attend.

Although consultants may attend development meetings, CAA-B will only deal directly with the Aerodrome Certificate Holder or their management representatives, at least one of whom should always be in attendance. CAA-B will not deal with consultants directly unless the Director, CAA-B agrees that this is absolutely necessary for the advancement of a project.

Developing meetings will be arranged between the CAA-B representative and the aerodrome coordinator as and when they are deemed necessary by either party. Subsequent meetings may not involve all the participants from the IDM, but major participants including at least one representative of the licensee must attend. It may also be useful to arrange at least one meeting at the aerodrome. This is essential in the case of major aerodrome development.

### 5.7.2 Work Safety Plan

The work safety plan is a major tool for managing safety risk during the development process. A work safety plan is required for any major development project. CAR AGA 1 contains standards for the safe conduct of aerodrome works. It is required that a work safety plan be developed and submitted to the CAA-B for review and acceptance before commencement of the project.

The following areas would normally be addressed in the safety plan:

- ▷ Minimum disruption of standard operating procedures for aeronautical activity
- ▷ Clear routes for rescue and fire fighting vehicles to active airport operational and safety areas
- ▷ The Airport Operator must ensure that rescue and fire-fighting response times specified in CAR AGA 1 are not adversely impacted by construction activities.
- ▷ Chain of notification and authority to change aspects of the construction plan
- ▷ Initiation, currency and cancellation of NOTAMs
- ▷ Suspension or rerouting of aircraft activity on the manoeuvring area.
- ▷ Threshold displacement and appropriate temporary marking and lighting.
- ▷ Installation and maintenance of temporary lighting and markings for closed or diverted aircraft routes on active airport operational areas.
- ▷ Revised vehicular control procedure or additional equipment and manpower
- ▷ Marking/lighting of construction equipment.

- ▷ Storage of construction equipment and materials not in use
- ▷ Designation of personnel parking and transportation to and from the work site.
- ▷ Marking and lighting of construction offices
- ▷ Location of contractor plants
- ▷ Designation of waste areas and disposal
- ▷ Debris clean up responsibilities and schedule
- ▷ Identification of construction personnel and equipment
- ▷ Location of access road
- ▷ Security controls on temporary gates and relocation fencing
- ▷ Noise pollution
- ▷ Blasting regulation and control
- ▷ Dust control
- ▷ Location of utilities
- ▷ Provision of temporary utilities and/or immediate repairs in the event of utility disruption
- ▷ Location of power and control lines for electronic/visual NAVAIDS
- ▷ Additional security measures required in existing regulation
- ▷ Marking and lighting of aerodrome co-coordinator as and when they are deemed closed airfield pavement areas
- ▷ Phasing of work.

### 5.7.3 Notice of Completion.

The proponent of an airport proposal shall notify CAA-B in writing within 15 days after completion of the project.