GHANA
CIVIL AVIATION AUTHORITY

ADVISORY CIRCULAR

AC 14-036

CERTIFICATION OF AERODROMES

GENERAL

Ghana Civil Aviation Authority (GCAA) Advisory Circulars from Aerodrome Safety and Standards (ASAS) contain information about standards, practices and procedures that the Authority has found to be an Acceptable Means of Compliance (AMC) with the associated Directives.

An AMC is not intended to be the only means of compliance with a Directive, and consideration will be given to other methods of compliance that may be presented to the Authority.

PURPOSE

This Advisory Circular provides methods, acceptable to the Authority, for showing compliance with Ghana Civil Aviation Directives (GCADs) Directive Part 32 as well as explanatory and interpretative material to assist in showing compliance.

REFERENCE

The Advisory Circular relates specifically to GCADs.

STATUS OF THIS AC

This is the first AC to be issued on this subject.

FORWARD

This document provides guidance to aerodrome operators on the calculation of runway declared distances. Aerodrome Operators are to note that it is the responsibility of an aerodrome operator who operates a certificated aerodrome to calculate and publish accurate declared distances for a runway intended for use by international commercial air transport.

APPROVAL

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ABBREVIATIONS

ACN	Aircraft Classification Number
AEP	Aerodrome Emergency Plan
AIP	Aerodrome Information Publication
AIS	Aeronautical Information Services
ASDA	Accelerate-Stop Distance Available
ASAS	Aerodrome Safety and Standards
ATC	Air Traffic Control
ATS	Air Traffic Services
AT-VASIS	Visual Approach Slope Indicator System
BRS	Baggage Reconciliation System
DG	Director-General
ELT	Emergency Locator Transmitter
FATO	Final Approach and Take-Off Area
FIDS	Flight Information Display System
Ft	Feet
GCAA	Ghana Civil Aviation Authority
HAPI	Helicopter Approach Path Indicator
IBIS	International Birdstrike Information System
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
IS	Implementing Standards
Km/h	Kilometer per hour
Kt	Knot
LDA	Landing Distance Available
LDAH	Landing Distance Available
NOTAMs	Notices to Airmen
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator
PCN	Pavement Classification Number
R/T	Radio Telephony
RTOA	Rejected Take-Off Area
RTODAH	Rejected Take-Off Distance Available
RVR	Runway Visual Range
SMGCS	Surface Movement Guidance and Control Systems
TLOF	Touchdown and Lift-Off Area
TODA	Take-Off Distance Available
TORA	Take-Off Run Available
T-VASIS	Visual Approach Slope Indicator System
VOR	Very High Frequency Omni-directional Radio Range

DEFINITION OF TERMS

Definition	**Meaning**
Accident	An occurrence associated with the operation 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	The certificate to operate an aerodrome issued by the authority subsequent to the acceptance/approval of the aerodrome manual and compliance with other requirements of

	GCAR Part 32.
Aerodrome Elevation	The elevation of the highest point of the landing area.
Aerodrome facilities and equipment	Facilities and equipment, inside or outside the boundaries of an aerodrome, that are 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 these Directives, including any amendments thereto accepted/ approved by the Authority.
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 (AIC)	A notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters.
Aeronautical Information Publication (AIP)	A publication issued by and with the authority of the Aeronautical Information Services and containing aeronautical information of a lasting character essential to airnavigation.

Aeronautical Information Service (AIS)	A service 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 a n d , 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.
Audit Programme Manager	This is the person appointed by the DG to coordinate the audit programme
Authority	This refers to the Ghana Civil Aviation Authority.
Certified aerodrome	An aerodrome whose operator has been granted an Aerodrome Certificate.
Controlled aerodrome	An aerodrome at which air traffic control service is provided to aerodrome traffic.
Director-General	The Director-General of the Ghana Civil Aviation Authority, who is also referred to as the Chief Executive Officer of the Ghana Civil Aviation Authority.
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 300m. d) *Precision approach runway, category III.* An instrument runway served by ILS and/or MLS to and along the surface of the runway and: A - intended for operations with a decision height lower than 30m (100ft), or no decision height and a runway visual range not less than 175m. B - intended for operations with a decision height lower than 15m (50 ft), or no decision height and a runway visual range less than 175m but not less than 50m. C - 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* *Note 2 – Visual aids need not necessarily be matched to the scale o non-visual aids provided. The c r i t e r i o n 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.
Minister	The Minister, Ministry of Aviation.
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 apron(s).
Non-instrument Runway	A runway intended for the operation of aircraft using visual approach procedures.
NOTAM	A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.
Obstacle	All fixed (whether temporary or permanent) or mobile object, or part thereof, that; (a) are located in an area intended for the surface movement of aircraft, or (b) which extends above a defined surface intended to protect aircraft in flight, or (c) stand outside those defined surfaces and that have been assessed as being a hazard to air navigation.

Obstacle limitation Surfaces	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 therunway.
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 stopway, if provided, 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	A system for the management of safety at aerodromes, including the organizational structure, responsibilities,

System (SMS)	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 predetermined messages or no message, as applicable.
Stopway	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.

Note: Terms and definitions that are shown in singular above shall also take on the same meaning when they are expressed in plural form.

CHAPTER 1.0

INTRODUCTION

1.1 Ghana Civil Aviation Laws and Directives

Ghana Civil Aviation Authority (GCAA), under the powers vested in it by the relevant Civil Aviation Act of 2004 and 2016, has developed its own set of Directives based on Annex 14, Volumes I and II and related guidance material in the ICAO manuals. The Part 32 of Ghana Civil Aviation Directive (GCADs) clearly provides the framework for certifying aerodromes within Ghana.

1.2 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 as stipulated in the GCADs Part 14 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 Authority, 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 Authority with respect to the standards, conditions and the level of service to be maintained at the aerodrome

CHAPTER 2.0

PROCESS OF AERODROME CERTIFICATION

2.1 The Process

Enabling Directives. The requirements for the certification of aerodromes are given in Part 32 of the GCADs . A principal provision relating to the certification process is set forth as follows:

> *Application for Aerodrome Certificate*—An application for the issuance of an Aerodrome Certificate shall be made to the Authority in the f orm and manner prescribed by the Authority. The application shall include:
>
> 1) the operator's aerodrome manual;
> 2) the plans of the Aerodrome including obstacle c hart ;
> 3) security clearance from the Government
> 4) written approval from the town planning authority;
> 5) Environmental Impact Assessment approval from the Environmental Protection Agency (EPA);
> 6) the appropriate fee as prescribed by the Authority; and
> 7) adequate insurance cover.
>
> NOTE: The entire process has been subdivided into five major phases and applicants would be required to provide information and documents listed above in the order in which they would be requested during the certification process. The process is discussed in the paragraph below. Aerodromes that are required to be certified under Part 32 of GCADs must be in possession of an aerodrome certificate before commencing operations. Applicants wishing to construct and operate an aerodrome under Part 32 of GCADs should note that the process for the construction of 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:

1. The Authority dealing with the expression of interest by an intending applicant for an aerodrome certificate;

2. The Authority assessing the formal application;

3. The Authority assessing the aerodrome facilities and equipment;
4. The Authority issuing or refusing an aerodrome certificate; and
5. Promulgating the certified status of an aerodrome and the required details in the AIP.

2.1.1 Phase 1: The Authority dealing with expression of interest by an applicant

a. Following expression of interest, an applicant is requested to complete and submit Aerodrome Certification Application Form, on form GCAA SRD ASAS-09 (Application for Aerodrome Operating Certificate) and in a manner acceptable by the Director – General. See Appendix A for sample form.

b. The DG GCAA will direct ASAS to appoint an audit programme manager who will coordinate oversight and monitoring activities in respect of the entire process from initial site selection through planning and development stages to final completion to ensure that all certification requirements are fully satisfied. An Audit team should be formed appropriate to the size, scope and complexity of the operations anticipated.

Initial Site Assessment

c. An initial assessment of the site(s) proposed by the applicant will then be carried out in order to determine and select a suitable site for establishing the aerodrome. Some of the factors to be considered in the selection of site for the development of an airport are discussed in Appendix E section 1.1 of this Advisory Circular. Additional guidance on site selection for airport development 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 Authority.

Referrals to Security, Land Use and Environmental Authorities

d. The applicant should consult the relevant State entities to obtain their clearance with respect to environmental impact assessment (EIA), 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 the Authority with a letter from the relevant environmental authority confirming that an

environmental impact assessment has been satisfactorily conducted. He may be requested to provide a copy of the EIA report, in addition to the letter. Lastly, to ensure that there are no ulterior motives behind the intent of the applicant to operate the aerodrome, a security clearance would have to be obtained from Government and submitted to the Authority.

e. Within this phase, the applicant would also be requested to submit relevant information that would enable the Authority to determine whether the applicant is capable of the business continuity of the Aerodrome. Appendix E section 1.2 contains guidance on the type of information to be provided.

f. Items required in paragraphs (d) and (e) above could be provided to the Authority in no particular order. They however constitute part of the requirements to be met in dealing with expression ofinterest

g. Fulfilment of the requirements in paragraphs (c), (d) and (e) above imply that the site is acknowledged as suitable and acceptable by all relevant Authorities and that the applicant is of satisfactory integrity and is financially capable of operating the proposed aerodrome.

Certification meeting

h. A certification meeting will be held with the applicant in order to familiarise the applicant with the rest of the process. All certification documents will be made available to the applicant and these include the GCADs Part 32 and other relevant advisory circulars. The applicant would be advised to obtain other relevant publications issued by ICAO as necessary.

Payment of Aerodrome Certification Fees

i. The applicant would be advised of the appropriate fee to be paid as indicated in the GCAA **scheme of charges** and would be provided with the Application Form: GCAA SRD ASAS-09 for completion and submission. See appendix B for a sample of application form.

2.1.2 Phase 2: Authority assessing the formal application.

Submitting Application Form: GCAA SRD ASAS-09

a. On receipt of completed Form: GCAA SRD ASAS-09, Authority 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 exemption along with the completed Form: GCAA SRD ASAS-09 or subsequently at a later date within this stage of the process. The operator shall also include the appropriate airspace classification requirement to facilitate internal coordination with the Authority's Flight Operation and Air Navigation Service Inspectorates during the processing.

Plans of the Aerodrome and Obstacle Chart

b. The plans of the aerodrome should include documents incorporating concepts, plans and designs of the aerodromes 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 Docs 9157 series.

Particulars of proposed non-compliance with or deviation from requirements

c. The particulars of proposed non-compliance or the application for exemption referred to in GCADs Part 32 shall be processed in line with the procedures discussed in Paragraph 2.2 of this Advisory Circular.

Approval of Aerodrome Drawings and Project Monitoring

d. The Authority shall review the plans and drawings for the construction of the Aerodrome physical facilities to ensure that the requirements of the Authority's GCADs Parts 14, 32 and related guidance documents are applied. Upon approval, the Authority shall monitor construction of the project and provide relevant professional advice where appropriate until satisfactory project completion.

Payment of Aerodrome Certification Fee

e. When the aerodrome development stage is satisfactorily completed, the Authority will request the applicant to pay the appropriate aerodrome certification fees as indicated in the GCAA scheme of charges to cover further processing for the issuance of an aerodrome certificate. Proof of payment would be made available before the aerodrome manuals are received and evaluated.

Submission of Aerodrome Manuals

f. The audit team will review the manuals and ensure the documents are in compliance with the requirements before moving to inspection phase.

g. The Aerodrome manuals shall be checked by the various audit teams using appropriate checklists to see if all the requirements under Part 32 GCADs, have been met.

Memorandum of Understanding between the Applicant and designated Service Providers

h. To ensure 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 aviation security services, air traffic control services and aeronautical meteorological services.

i. In this connection, the operator should submit to the Authority:

   i. A copy of memorandum of understanding signed by the operator and security service provider(s), and a copy of airport security programme detailing the arrangement in place at the airport to ensure optimum implementation of aviation security measures.

   ii. A copy of memorandum of understanding or agreement signed with Air Traffic Services (ATS) provider setting out the technical terms under which air traffic services are to be provided.

   iii. A copy of memorandum of understanding or agreement signed with Meteorological Service provider setting out the technical terms under which Meteorological services are to be provided.

j. Copies of the agreement should be provided as an attachment to the Aerodrome Manual

k. If all the above information provided by the applicant are verified by the Audit team as complete and accurate, the Authority will proceed to the next phase of the certification process.

2.1.3 Phase 3: Authority Assessment of Facilities and Equipment:

Physical Inspection

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 the following areas:

i) Verification of aerodrome data to be reported to the aeronautical information service.

ii) The checking of aerodrome facilities and equipment, which should include:

1) 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;
- Aprons; and
- Runway turn pads.

2) The presence of obstacles in obstacle limitation surfaces at and in the vicinity of the aerodrome;

3) 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;

4) Standby power;

5) Wind direction indicator(s);
6) Illumination of the wind direction indicator(s);
7) Aerodrome markings and markers;
8) Signs in the movement areas;
9) Tie-down points for aircraft;
10) Ground earthing points;
11) Rescue and fire-fighting equipment and installations;
12) Aerodrome maintenance equipment, particularly for the airside facilities maintenance including runway surface friction measurement;
13) Disabled aircraft removal equipment;
14) Wildlife management procedures and equipment;
15) Two-way radios installed in vehicles for use by the aerodrome operator in the movement area;
16) The presence of lights that may endanger the safety of aircraft; and
17) Fuelling facilities.

iii) Competence of operational and maintenancepersonnel

iv) Co-ordination with other service providers such as the Air Traffic Control, Meteorological Services, and Aeronautical Information Services

v) Safety Management System in place

vi) Coordination with other agencies working at the aerodrome, such as fixed base operators, ground handling agencies to ensure safety.

vii) System for notification and reporting of all relevant information to the AIS

viii) 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.

ix) Aerodrome Inspection Programme

After the field verification, the audit team shall document and communicate deficiencies identified during the audit to the applicant and also request a corrective action plan from the applicant. The Authority's audit team shall monitor implementation of the corrective action plan.

Insurance Cover

Before proceeding to the next stage, the Authority 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.

2.1.4 Phase 4: Grant/refusal of certificate

a. If the corrective action plan is satisfactorily implemented by the applicant, the Authority 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 the Authority's authorised 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 Directives, the Authority 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:

a) The inspection of aerodrome facilities and equipment revealed that they do not make satisfactory provision for the safety of aircraft operations;

b) The assessment of the aerodrome operating procedures revealed that they do not make satisfactory provision for the safety of aircraft operations;

c) The assessment of the aerodrome manual revealed that it does not contain the particulars set out in the Authority's Directives; and

d) 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 Directive.

2.1.5 Phase 5: 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 by the Authority to the aeronautical information service for publication.

The processes for aerodrome certification has been summarised as illustrated in the table below. Phases/steps in column 1, description of the process involved in column 2, the status of the described action in column 3 and remarks in column 4. (The letter **A in column 3 means Applicable)**.

FLOWCHART FOR THE PROCESSES OF AERODROME CERTIFICATION

Phase /Step	**Description**	**Status**	**Remarks**
Phase 1			
Step 1	Completion and submission of Form: AC-GCAA SRD ASAS-09	A	
Step 2	Clearance letter from Environmental Authority	A	Only noise assessment is required for existing aerodromes before 2006
	Security clearance	A	Not applicable to Government- operated aerodrome
	Approval from land-use Authority or right of ownership of property	A	
Step 3	Proof that applicant is financially capable to operate the Aerodrome	A	
Step 4	Certification Meeting	A	
Step 5	Payment of Aerodrome Construction Fees	A	
Phase 2			
Step 1	Completion, submission and evaluation of Form: GCAA SRD ASAS-09 together with detailed aerodrome drawings and obstacle charts	A	Aerodrome drawings and obstacle chart would be required to be submitted.
Step 2	Approval of drawings and project monitoring till completion	A	
Step 3	Payment of Aerodrome Certification Fees	A	
Step 4	Submission and evaluation of - Aerodrome Manual - Airport Security Programme - Air Traffic Service manuals - applications for deviations, if necessary Also to be provided are written technical and commercial agreements between the applicant and designated providers of aviation security, air traffic service and meteorological services for the provision of		For existing aerodrome, the documents should be submitted with Form: GCAA SRD ASAS-09 if it has not been submitted in step 1

	these services.		
Phase 3			
Step 1	Physical inspection of: - Aerodrome facilities and services by ASAS inspectors - Aviation Security facilities and services by AVSEC inspectors	A	
Step 2	Provision of insurance cover		
Phase 4			
Step 1	Grant or Refusal of Aerodrome Certificate	A	
Phase 5			
Step 1	Promulgation of the certified status of the Aerodrome in the AIP	A	
Step 2	Update of surveillance plan	A	

2.2 Exemption

a. The Authority may exempt, in writing, an Aerodrome operator from complying with specific provisions of these Directives. When an aerodrome does not meet the requirement of a standard or practice specified in the GCADs, the Authority may decide to exempt the applicant from complying with specific provisions, only if and where permitted by the standards, the conditions and procedures that are necessary to ensure a level of safety equivalent to that established by the relevant standard have been put in place. Before it is decided to exempt the aerodrome operator, the Authority will take into account all safety related aspects.

b. An exemption is subject to the aerodrome operator complying with the conditions and procedures specified by the Authority in the aerodrome certificate as being necessary in the interest of safety. Deviation from a standard and the conditions and procedures referred to in the GCADs, shall be set out in an endorsement on the aerodrome certificate. The certificate should also contain the number and file reference of exemptions granted pursuant to the relevant clause of the GCADs.

2.2.1 Receipt of Application for Exemption

Part 32 of GCADs permits any person to apply to the Authority for an exemption. Any application for exemption from any provision should be forwarded to the Authority for consideration.

2.2.2 Processing the Application

2.2.2.1 Initial Review for Compliance.

The Authority will review application for exemption, to ensure that the following items are included in the application:

(1) the specific requirement from which the applicant seeks exemption explaining the nature and extent of the relief sought;

(2) justification for the exemption giving information, views, or arguments to support the action sought;

(3) the reason why granting the request would be in the public interest;

(4) a detailed description of the alternative means by which the applicant is to ensure a level of safety equivalent to that established by the Directive from which the exemption is applied for. The applicant reason should justify that the exemption would not adversely affect safety or the action to be taken by the applicant will provide a level of safety equal to that provided by the provision under these Directives, from which the exemption is sought.

2.2.2.2 Applicant Does Not Meet Requirements.

The Authority shall inform the applicant and no further action shall be taken on that application. A letter of rejection shall be sent by the DG, GCAA explaining why the application does not satisfy the requirements and is to be forwarded to the applicant within 30 days of the receipt of the application.

2.2.2.3 Applicant Does Meet the Requirements.

Where the Authority determines that the application for exemption meets the requirements of the Directives and that a review is justified, the Authority shall notify and may publish in the AIP or at least one local daily newspaper of wide circulation, a detailed summary of the application, for public comment, specifying the date by which the comments are to be received by the Authority for consideration.

2.2.3 Analysis of the Application

While each request for an exemption must stand on its own merit, due diligence must be made to each application for exemption for administrative purposes (namely, to see if similar exemptions have been granted before). In an exemption action, maintaining an equivalent or greater level of safety is of primary concern. The analysis should focus on the applicant's justification that safety would not be adversely affected.

Consideration in the analysis should include:

a) The effect of an undue burden upon the applicant if the exemption is not granted, relative to the burden that others bear in complying with the Directive(s);

b) The effect of setting a precedent with respect to safety and public interest. A review of related previous exemption action may be in order. As with any application, the Authority may request additional information from the applicant.

c) The needs of or benefits to the aviation public and the local community; consequences which may be of commercial or practical convenience, or necessity of the operation. It is not sufficient that the exemption be considered "safe" and "commercially expedient" for the applicant. All factors that examine the safety impact on the community at large should be considered. Consideration should also be given to all factors that examine the economic impact on "non-exempt" operators given that an exemption must not result in any unjustified competitive advantage to one party over another.

2.2.4 Procedures for Granting or Denying the Application for an Exemption

a) **Decision to Grant.** After completing the analysis, the Authority may conclude that the applicant's arguments support a grant of exemption. In this case, the Authority's certification team will draft a document granting the exemption for the signature of the Director-General.

b) **Decision to Deny.** After reviewing all of the issues involved, the Authority may determine that the applicant has not shown reasonable support to granting the exemption. A decision to deny the exemption is based on the determination that the exemption would not be in the public interest, would adversely affect safety, or, if applicable, would not provide a level of safety intended by the Directive. Under such circumstances, the assigned certification team will prepare a denial of the exemption document citing the reasons for the signature of the Director-General.

c) **Partial Grant of an Exemption**. If the Authority determines that part of the applicant's request meets the criteria for granting the application, it may issue a partial grant of exemption. The guidelines above for grant of exemption and denial of exemption documents should be followed citing reasons. The document must fully discuss those parts of the request that are being denied and those that are being granted.

d) **Document Contents.** The document granting the exemption should answer the following questions:

(1) What was the applicant's request?

(2) What does the current Directive require?

(3) What arguments did the applicant use to support therequest?

(4) If the Authority does not agree with all of the arguments presented by the applicant to support the grant of exemption, these reasons shall be discussed. All issues presented by the applicant are to be addressed. The document should discuss how granting the request will not adversely affect safety and should explain how the action proposed by the applicant will provide a level of safety equal to the Directive. Any conditions, design modifications, operating limitations, expiration date, etc. must be made part of the granting clause.

(5) The Authority shall inform the applicant in writing and publish a detailed report of its evaluation and decision to grant or deny the application forexemption.

(6) The report shall specify the duration of the exemption and any conditions or limitations of the exemption.

(7) Where an exemption affects a significant number of stake holder's population of the aviation industry in Ghana, the Authority shall publish the report in the Aeronautical Information Circular.

2.2.5 Request for an Extension of the Termination Date of an Exemption

The continued validity of every exemption granted by the Authority shall be reviewed during the renewal of the certificate. On removal of the exemption, the certificate holder shall notify the same to the DG, GCAA and after approval of DG, GCAA, the same shall be deleted from Aerodrome manual and AIP.

Upon receipt of a request from an applicant to extend the termination date of an exemption, the Authority shall process the application according to the steps given in paragraphs 2.2.1-2.2.4 and prepare a letter of agreement or denial depending on the outcome of the review. The following information is to be included:

a) The Part 32 of GCADs (reference section (XXXX))

b) Date of incoming application;

c) Grant or denial statement; and

d) Exemption number (after signed).

A copy of the extension or denial shall be filed on the Aerodromes Register prior to the original exemption termination date.

2.3 Aerodrome Operator's obligations - Post certification

a. An aerodrome that is granted a certificate under the applicable Directives 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 the Authority. Necessary amendment to the aerodrome manual must be carried out in consultation with the Authority with a final copy of the amendment pages forwarded to the Authority as required in the GCADs.

b. To meet the above obligations, the aerodrome operator is required to have continuous self-inspection and internal audit 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 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 special 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.

2.4 Continued surveillance/oversight by the Regulator:

a. Periodic inspections and audits of the certified aerodrome by the Authority may be necessary to check/ensure that aerodrome certificate holders meet their obligations under the terms of the certificate and that the certified aerodrome continues to maintain the level of safety as at the time of certification. To this end, the Authority personnel 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.

b. Such periodic inspections will be organised as follows:

i. Pre-inspection briefing with aerodrome management, including coordination with air traffic control tower personnel.

ii. Administrative inspection of the aerodrome safety management system.

iii. Movement area inspection 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.

iv. Rescue and fire-fighting services, their training records; the category requirements; time response drill; checking the alarm system; checking and examining proximity suits, other protective clothing and fire-fighting and rescue tools.

v. Fuel facilities including spot checking, including fuel sampling, for compliance with the applicable requirements.

vi. 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.

vii. Post inspection briefing with the aerodrome management, including the determination of appropriate enforcement action for non-compliance with the Directives.

Other safety functions which may require to be addressed by the aerodrome inspector are:

i. a first-hand evaluation of full-scale airport emergency exercises to identify problems and deficiencies;

ii. 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 Directives;

iii. 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 Directives;

iv. the organisation of, and participation in, aerodrome safety seminars and other training programmes to promote a safety culture.

2.5 Compliance and Enforcement

Aviation safety at aerodromes depends primarily on voluntary adherence to these requirements by the aerodrome operators. Promoting compliance with the Directives through education, training and counselling is therefore of primary importance, and

only when these efforts have failed should 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 Directives and there is no history of such a violation by the operator.

2.6 Transfer of an Aerodrome Certificate

The Aerodrome Certificate is transferable in accordance with Part 32.3.7 of GCADs.

2.7 Amendment of an Aerodrome Certificate

Provided that the requirements of Part 32 of GCADs have been met, the Authority shall amend the aerodrome certificate when:

a. There is a change in the ownership or management of the aerodrome. b.

There is a change in the use or operation of the aerodrome;

c. There is a change in the boundaries of the aerodrome, or

d. The holder of the aerodrome certificate requests an amendment.

Detailed process for the amendment of aerodrome certificate is contained in Section 2.7.1 below

2.7.1 Processing Amendments

Part 24.18 of GCADs permits an aerodrome certificate to be amended by the Authority, if the following circumstances occur:

- Change in the ownership or management of the aerodrome;
- Change in the use or operation of the aerodrome;
- Change in the boundary of the aerodrome; or
- The holder of the aerodrome certificate requests an amendment.

Key functions

The Manager of Aerodrome Safety and Standard (ASAS) is responsible for initiating the process for the amendment of the aerodrome certificate on the request of the Aerodrome Operator.

The application for the amendment of the aerodrome certificate submitted to DG GCAA shall be forwarded to the Assigned Aerodrome Inspector through ASAS and his immediate subordinates for necessary action. The workflow process shall be coordinated through ASAS who will track the progress of the application.

Procedure

ASAS Manager in consultation with his relevant subordinate and assigned inspectors shall:

1. ***Check whether the request for an amendment to Aerodrome Certificate be made by the aerodrome operator.***

   The aerodrome operator must make requests for consent to amend an aerodrome certificate. The Authority's policy is that requests for amendment of the aerodrome certificate must be made in writing.

2. ***Check reasons for an amendment of an Aerodrome Certificate.***

   An aerodrome operator may request the Authority's consent to amend the certificate when:

   - There is a change in the ownership or management of the aerodrome;
   - There is a change in the use or operation of the aerodrome;
   - There is a change in the boundary of the aerodrome; or
   - The holder of the aerodrome certificate requests an amendment.

3. Check criteria for an amendment of an Aerodrome Certificate.

(a) Consent to an amendment may be given only if the Authority is satisfied with the reasons submitted by the aerodrome operator.

(b) An amendment is appropriate when no significant variation will occur in the day-to-day operations of the aerodrome — that is, when:

- Aerodrome Manual procedures remain substantially unaltered (Minor amendments — such as contact phone numbers etc — are acceptable).
- Aerodrome facilities remain substantially unaltered.
- Key aerodrome operational personnel — such as Reporting Officers, Safety Officers and the like — remain in their positions or are replaced with staff of equivalent qualification, experience or skill levels.

4. Check criteria for non-consent to amend an Aerodrome Certificate

(α) Consent to amendment must be refused if the Authority is not satisfied with the reasons submitted by the aerodrome operator.

(β) Generally, the Authority's policy is that consent to amendment should be refused w he n significant changes to operational aspects of the aerodrome are made — for example:

(χ) If the certificate document is conditionally endorsed or the amendment would require conditions to be endorsed on the certificate document;

(δ) Reduction of runway, taxiway or apron facilities.

(ε) If ***GCAA*** believes that:

- a significant revision to the Aerodrome Manual will be necessary as a result of the amendment.
- the proposed staffing arrangements are not adequate or appropriate.

Note: *If consent is not granted,* ***GCAA*** *should take steps to confirm that the aerodrome operator can meet the obligations*

of the certificate. It is possible that an amendment of the certificate should be followed up by the Authority's surveillance.

5. Check for any reviewable decision

A refusal to consent to an amendment may be reviewable.

GCAA should review any statement of reasons contained in a notice to the applicant before the notice is sent to the applicant.

After completion of the amendment of the aerodrome certificate, the Assigned Aerodrome Inspector shall:

- put copies of the documentation relating to the amendment of the Aerodrome Certificate in the aerodrome file;
- update the Aerodrome Certificate Register; and
- notify AIS for issuing NOTAM and any changes to the details of the reporting officer and for amendment to publication;
- amend the Surveillance Plan.

2.8. Voluntary surrender of an aerodrome certificate

The Act and Part 32 provides for the revocation of an aerodrome certificate if an aerodrome operator voluntarily gives notice in writing to the Authority.

2.8.1 Surrender of Aerodrome Certificate

This section provides for the revocation of an aerodrome certificate at the request of an aerodrome operator as per Part 32 of GCADs.

Key functions

The ASAS is responsible for initiating the process for the cancellation of the aerodrome certificate on the request of the Aerodrome Operators.

The application for the revocation of the aerodrome certificate submitted to DG GCAA shall be forwarded to the assigned aerodrome inspector through ASAS and immediate subordinates for necessary action.

Procedure

On receipt of the application, the Aerodrome Inspector(s) will notified for necessary action. On receipt of the application, the assigned aerodrome inspector(s) shall:

1 Establish the credentials of the aerodrome operator requesting the revocation as the certificate holder.

2 On the notification of the intention to surrender the aerodrome certificate, check that the aerodrome operator has:

a. Clearly stated, making a request for the cancellation of certificate.

b. Specified when revocation should become effective.

c. If no date is specified, the certificate revocation date is the 30 days from the date of notification.

3 If the aerodrome operator has not supplied the required information for a proper notification of intention to surrender the certificate, contact the operator and advise them to supply the necessary details in writing.

4 Determine whether the aerodrome is to continue to operate as an un-certificated aerodrome.

2.9 Types of Aerodrome Certificate

An applicant may be granted an aerodrome certificate for public use. The hours of availability of the aerodrome must be notified in the AIP and the aerodrome must be available to all persons on equal terms and condition.

CHAPTER 3.0

THE AERODROME MANUAL

3.1 Introduction

The aerodrome manual is a fundamental requirement of the certification process. It shall contain all the relevant information about the aerodrome as stipulated in GCAD Part 32 for processing the application before granting an aerodrome certificate.

3.2 Information to be included in the Aerodrome Manual

a. 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

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

3.2.1 GENERAL

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 Part 32 of the GCADs.

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 presented in the format shown below to indicate the aerodrome and aerodrome operator's compliance status with each clause of the GCAD Part 32;

h) coordination policy or letters of agreement between ATS and Aerodrome operator on areas of coordination such as Aerodrome Emergency planning, Aerodrome condition reporting, Aerodrome Vehicle Operations etc.

3.2.2 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, particularly, 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 theaerodrome;

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 should be provided.

3.2.3 Particulars of the aerodrome required to be reported to the Aeronautical Information Service (AIS)

General Information

a) the name of the aerodrome;

b) the location of the aerodrome;

c) the geographical coordinates of the aerodrome reference point determined 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.

3.2.4 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, *viz*, 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 aircraftstand;

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 the Ghana Civil Aviation (Air Navigation Services) Directives;

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 an 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 normally available at the aerodrome.

Note – The accuracy of the information in Part 3 is critical to aircraft safety. Information requiring engineering survey and assessment should be gathered or verified by qualified technical persons.

3.2.5 Particulars of the aerodrome operating procedures and safety measures

3.2.5.1 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 Authority 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 Authority, of the office where changes are to be reported to the Authority.

3.2.5.2 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 Authority 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.

3.2.5.3 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 and SITA addresses and the radio frequencies of theiroffices;

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.

3.2.5.4 Rescue and Fire-Fighting

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 fire-fighting services at the aerodrome

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

3.2.5.5 Inspection of the aerodrome movement area and obstacle limitation surface by the Aerodrome Operator

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 (ATC) 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 checklist;

f) arrangement for reporting the results of inspections and for taking prompt follow-up actions to ensure correction of unsafeconditions;

g) the names and roles of persons responsible for carrying out inspections, and their telephone number during and after working hours.

h) procedure to monitor and report the condition of movement areas.

i) procedures to report the presence of water onrunway.

j) procedures to report slippery runway condition

3.2.5.6 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 suchinspection;

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 sign and SMGCS plan.

g) procedure to prevent aircraft from entering permanently closed runways and taxiways.

3.2.5.7 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 aerodromedrainage.

3.2.5.8 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 (ATC) 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

3.2.5.8 Apron Management

Particulars of the apron management procedures, including the following:

a) arrangements between Air Traffic Control (ATC) 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.

3.2.5.9 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.

3.2.5.10 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.

3.2.5.11 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.

3.2.5.12 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 theoperator;

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 Authority 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.

3.2.5.13 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 roles of the aerodrome operator and the holder of the aircraft certificate ofregistration;

b) arrangements for notifying the holder of the certificate of registration;

c) arrangements for liaising with the aerodrome Air Traffic Control unit (ATC;

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

3.2.5.15 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.

3.2.5.16 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.

3.2.5.17 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 navaids 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 persons 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.

3.2.6 Details of the Aerodrome Administration and Safety Management System

3.2.6.1 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.

3.2.6.2 Safety Management System (SMS)

Particulars of the safety management system 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 target, 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 GCADs and its associated documents.

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 aerodrome 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.

3.2.4 Memorandum of Understanding between the Applicant and Designated Service Providers

To ensure safety of aircraft 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 aviation security services, air traffic control services and aeronautical meteorological services.

The applicant is therefore required to enter into a technical agreement with the ATC and the Ghana Meteorological Agency (GMET) who are statutorily responsible for the provision of aviation security, air traffic control and meteorological services respectively.

In this connection, the operator should submit to the Authority:

a. A copy of memorandum of understanding signed by the operator and third party security and security programme detailing the arrangement in place at the airport to ensure optimum implementation of aviation security measures.

b. A copy of memorandum of understanding or agreement signed with ATC setting out the technical terms under which the services are to be provided.

c. A copy of memorandum of understanding or agreement signed with GMET setting out the technical terms under which the services are to be provided.

d. Quality Management System Manual

e. A copy of Ground Handling License

Table 1: Table of Compliance with the clauses in theAerodrome Manual of Standards

Table of Compliance with the clauses in the GCADs			
Clause No. in the GCADs	To indicate Provision of the Standards	To indicate whether fully compliant, partially compliant, or non-compliant	To provide remarks or brief explanation when partially compliant or non-compliant.

CHAPTER 4.0

DEVELOPMENT AT CERTIFIED AERODROME

4.1 Introduction

The Ghana Civil Aviation Authority (GCAA) must be informed in advance of any development proposed at certified aerodromes. The Part 32 of GCADs requires an aerodrome operator to notify the Authority in writing before effecting any change to the aerodrome facility or equipment or level of service.

4.2 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.

4.3 Why notice is required

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

4.4 Project requiring notice.

Part 27 of the GCADs requires that any Aerodrome Operator who intends to change any of the following shall notify the Authority of such plans:

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

4.5 How to submit notice

Notice shall be submitted to the Authority at least:

a. in cases prescribed in the paragraph above, 30 days in advance of the day that work is to begin; or

b. Notwithstanding paragraph (a) above of this section-

c. In an emergency involving essential public service, public health, or public safety or when the delay arising from the 30 to 180 working days advance notice requirement would result in an unreasonable hardship, an operator may provide notice to the Authority by telephone or other expeditious means as soon as practicable in lieu of submitting written notice.

However, the proponent shall provide full notice, in writing when otherwise requested or required by the Authority. .

4.6 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.

4.7. Initial Actions

a. To initiate the development procedure, the certificate holder should appoint a project co-coordinator who shall liaise with the Authority representative. The Authority's representative shall prepare specific case file which will be opened for the project. The aerodrome project manager shall communicate directly with the Authority representative about the development, throughout the duration of the project.

b. For major projects an Initial Development Meeting (IDM) will be held to brief the Authority 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 Authority are invited to attend.

c. Although consultants may attend development meetings, the Authority will only deal directly with the aerodrome certificate holder or their management representatives, at least one of whom should always be in attendance. The Authority will not deal with consultants directly unless the DG (GCAA) agrees that this is absolutely necessary for the advancement of a project.

4.8 Consideration of major development

- ✓ Focal contact point for project
- ✓ Scope of the development
- ✓ Proposed timescale
- ✓ Work safety Plan
- ✓ Temporary Air Traffic Control (ATC) Procedures during the development
- ✓ ATC line of sight requirements
- ✓ Air Traffic Procedures post development
- ✓ Temporary Operational Procedures during development
- ✓ Aerodrome Ground lighting briefing
- ✓ Low visibility Procedures (where applicable)
- ✓ Instrument Approach and Departure Procedures and Minima
- ✓ Bird hazard implications
- ✓ Environmental impact
- ✓ Any special safety measures
- ✓ Work plan
- ✓ Aerodrome manual amendments
- ✓ Contractors involved
- ✓ Airspace issues.

A safety plan that addresses all the following:

- ✓ Minimum disruption of standard operating procedure for aeronautical activity
- ✓ Clear routes for firefighting and rescue stations to active airport operations (AOAs) and safety areas

- ✓ The airport operator must meet RFFS response time specified in the GCADs Part 14 at all time so that construction activities cannot be permitted to prevent Airport Operator (AO) from meeting response time
- ✓ Chain of notification and authority to change aspects of the construction plan
- ✓ Initiation, currency and cancellation of NOTAMs
- ✓ Suspension or restructuring of aircraft activity on AOA,
- ✓ Threshold displacement and appropriate temporary marking and lighting.
- ✓ Installation and maintenance of temporary lighting and marking for closed or diverted aircraft route on active airport operations and safety 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 cleanup responsibilities and schedule
- ✓ Identification of construction personneland equipment
- ✓ Location of access road
- ✓ Security controls on temporary gates and relocation fencing
- ✓ Noise pollution
- ✓ Blasting Directive 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 Directive

- ✓ Marking and lighting of aerodrome co-coordinator as and when they are deemed closed airfield pavement areas
- ✓ Phasing of work.

Further guidance on the preparation of work safety plan is given in the Authority's Advisory Circular - AC-AD-034 (Plan of Construction Operations)

4.9 Airspace utilisation consideration

The operator will conduct an aeronautical study to determine the effect of the airport proposal on the safe and efficient use of aerodrome by aircraft, which will be forwarded to the Authority for review. Some of the factors considered in the study are:

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

4.10 Coordination with interested persons.

a. As part of the review of the aeronautical study, the Authority may consult with interested persons regarding the substance of the proposal. This coordination 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.

b. Developing meetings will be arranged between the Authority's representative and the aerodrome co-ordinator as and when either party deems them necessary. 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.

4.11 Determination.

The Authority shall review the aeronautical study conducted by the operator subjecting it to safety and public interest tests. Further guidance on the conduct of aeronautical studies and risk assessment is given in the Authority's Advisory Circular AC 14-007.

The purpose of a review of the aeronautical study is given to the proponent in the form of an the Authority's determination. These determinations will indicate the following:

- ✓ 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.
- ✓ 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).

4.12 Planning Assistance.

The Authority's Inspectors are available to provide assistance during project planning stages on the feasibility of a project from an airspace utilization standpoint. Prospective applicants are encouraged to take advantage of this service, particularly on new airport projects, before money is expended for acquisition of real property or for elaborate engineering plans. Such service is informal in nature and the proposal will not be circulated to the public for comments unless specifically requested by the applicant.

4.13 State and/or Local reporting requirements.

An Authority's determination does not relieve the proponent of responsibility for compliance with any local law, ordinance or state Directive.

4.14 Notice of Completion.

The proponent of an airport proposal shall notify the Authority by "Letter" within 15 days after completion of the project.

4.15 Management Plan

a. The Authority will wish to see in support of a development project a plan, which may include any or all of thefollowing:

Instrument Approach and Departure Procedures.

a. Should the proposed development have any effect on the Instrument Approach, Missed Approach and Visual Manoeuvring (Circling), including Standards Instrument Departures (SIDS) and Standard Arrival Routes (STARS), details should be submitted to the Authority. It is important that details are submitted sufficiently in advance of the IDM for the full impact to be considered by the

appropriate departments. Survey information must be provided if procedures need to be changed.

b. In order to achieve adequate notification time scales for the Authority, the IDM should be at least six (6) months before the date at which the Works are planned to start. This is particularly important for major construction projects that include the installation of new ATC facilities, or the installation of new aerodrome lighting. For an ILS upgrade or developments that include alterations to instrument Approach Procedures, the Authority should be notified a minimum of six (6) months before completion of the project.

4.16. Assessment of Risk

a. All development is expected at least to meet the Authority's criteria detailed in the GCADs, which are minimum standards. During the planning process existing variations on the aerodrome certificate should be examined to determine whether they can be removed or improved as part of the development.

b. However, there may be circumstances when a safety significant development is deemed essential but:

- ✓ It falls outside the scope of the GCADs;
- ✓ The GCADs requirements cannot be met; or
- ✓ An existing variation cannot be corrected.

c. In these circumstances an aeronautical study showing clearly that alternative conditions and procedures that provide an acceptable level of safety will be put in place.

d. The type of aeronautical study undertaken will vary depending upon the safety criticality of the development. It should be noted that the submission of a risk or safety assessment does not automatically guarantee approval of a project.

e. The aerodrome operator cannot proceed with development unless the study has been and a determination has been issued which indicates that there are unobjectionable aspects of the project. Guidance on the conduct of aeronautical studies and the granting of exemptions is given in Advisory Circular AC 14-007.

Appendix 1

TECHNICAL INSPECTIONS AND ON-SITEVERIFICATIONS

1. INTRODUCTION

1.1 The aim of this section is to list the main items to be reviewed during the initial certification.

1.2 The following list may be expanded in accordance with applicable certification requirements.

1.3 By following these lists, States should base their checks on the same items while adapting their checklists to the applicable Directive, thus harmonizing their inspections.

1.4 The oversight audit checklist can be based on the same lists.

2. TECHNICAL INSPECTIONS

2.1 Infrastructure and ground aids

Initial certification of the infrastructure and ground aids includes:

a) Obstacle restrictions:

1) OLS:

i) the surfaces are defined;

ii) as few objects as possible penetrate the OLS;

iii) any obstacles that do penetrate the OLS are appropriately marked and lit. Operational restrictions may apply as appropriate;

2) obstacle free zone (OFZ):

i) these surfaces are defined when required;

ii) no object penetrates the OFZ unless essential for the safety of air navigation and is frangible;

3) objects on the areas near the runway or the taxiways (runway strips, clearway, stop way, runway end safety area, taxiway strips, radio altimeter operating area, pre-threshold area) comply with the requirements;

b) Physical characteristics:

1) in order to facilitate the verification of compliance of the physical characteristics of the aerodrome, States may use the reference code method developed in Annex 14, Volume I. The reference code provides a simple method for interrelating the numerous specifications concerning the characteristics of aerodromes so as to provide a series of aerodrome facilities that are suitable for the aeroplanes that are intended to operate at the aerodrome;

2) the aerodrome operator may indicate in its aerodrome manual the reference code chosen for each element of the movement area so that the State can check compliance of the runways and taxiways and their associated characteristics against the requirements of the reference code as well as other specifications (bearing strength, surface characteristics, slopes);

3) runways:

i) the physical characteristics:

— are compliant with the applicable Directive and the reference code;

— characteristics are adequately and regularly measured;

ii) the published declared distances are in accordance with the situation on site;

iii) the areas near the runway (runway shoulders, runway strips, clearway, stopway, runway end safety area, radio altimeter operating area, pre-threshold area) are compliant with the

applicable Directive and the reference code in terms of width, length, type of surface, resistance, slopes, grading and objects on them;

iv) the relevant separation distances are compliant with the applicable Directive and the reference code;

4) taxiways:

i) the physical characteristics (width, curve radius, extra taxiway width, longitudinal and transverse slopes, radius of turn-off curve for rapid exit taxiways, surface type, bearing strength) are compliant with the published reference code for each taxiway;

ii) the taxiway shoulders and strips are compliant with their reference code in terms of width, type of surface, slopes and objects on them;

iii) the taxiways on bridges are compliant with their reference code in terms of width;

iv) the relevant separation distances are compliant with applicable Directives and the reference code;

5) service roads:

i) road-holding positions are established at the intersection of a road and a runway at a distance compliant with the reference code;

6) holding bays, runway-holding positions and intermediate holding positions:

i) the holding bays, runway-holding positions and intermediate holding positions are located in accordance with the applicable reference code;

c) Electrical systems:

1) adequate primary power supply is available;

2) the switch-over time meets the requirements;

3) when required, a secondary power supply is available;

4) the air traffic service (ATS) has feedback on the status of ground aids when required;

d) Visual aids:

1) markings:

i) all the markings:

— are in place where required;

— are located as required and in the required number;

— have the dimensions and colours required;

ii) this includes, when required:

— the runway markings (runway designation marking, threshold marking, runway centre line marking, runway side stripe marking, aiming point marking, touchdown zone marking, runway turn pad marking);

— the taxiway markings (taxiway centre line and enhanced taxiway centre line marking, taxiway side stripe marking, runway-holding position marking, intermediate holding position marking);

— the apron markings;

— the mandatory instruction markings;

— the information markings (that do not have to be displayed but are to be compliant when displayed);

— a road-holding position marking (that is compliant with the applicable Directive);

— a VOR aerodrome checkpoint marking;

— a non-load bearing surface marking;

2) signs:

i) all the signs:

— are in place where required;

— are located as required;

— have the dimensions and colours required;

— have an adequate lighting system when required;

— are frangible when required;

ii) this includes when required;

— mandatory instruction signs (runway designation signs, runway-holding position signs, Category I, II
and III holding position signs, no entry signs);

— information signs (direction signs, location signs, runway vacated signs, runway exit signs, intersection take-off signs, destination signs, road-holding position signs, VOR checkpoint signs, aerodrome identification sign);

3) lights:

i) there should not be any non-aeronautical lights that might endanger the safety of an aeroplane;

ii) all the aeronautical lights:

— are displayed when required;

— located as required and in the required number;

— have the required colours and intensity levels;

— comply with their serviceability levels or maintenance objectives;

— are frangible when elevated as required;

iii) this includes, when required:

— the approach lighting system;

— the runway lead-in lighting systems;

— the visual approach slope indicator system (VASIS or PAPI);

— the runway lights (runway centre line lights, runway edge lights, runway threshold identification lights, runway end lights, runway threshold and wing bar lights, runway touchdown zone lights, stopway lights, runway turn pad lights);

— the taxiway lights (taxiway centre line lights, taxiway edge lights, stop bars, no-entry bars,

intermediate holding position lights, rapid exit taxiway indicator lights);

— runway guard lights;

— road-holding position lights;

— unserviceability lights;

— aeronautical beacons;

— obstacle lights;

4) markers:

i) all the markers:

— are in place where required;

— are located as required and in the required number;

— have the required colours;

— are frangible;

ii) this includes, when required:

— the taxiway markers (taxiway edge markers, taxiway centre line markers);

— the unpaved runway edge markers;

— the boundary markers;

— the stopway edge markers;

— the edge markers for snow-covered runways;

— unserviceability markers;

5) indicators:

i) a wind direction indicator:

— is provided in the correct location;

— complies with the location and characteristics requirements;

— is illuminated at an aerodrome intended for use at night.

2.2 RFF services

Initial certification of RFF services includes:

a) Level of protection:

1) the level of protection is promulgated in the AIP;

2) the aerodrome operator has a procedure to regularly reassess the traffic and update the level of protection including unavailability;

3) the aerodrome operator has made arrangements with the aeronautical information services, including ATS, to provide up-to-date information in case of any change in the level of protection;

b) RFF personnel:

1) the number of RFF personnel is consistent with the level of protection appropriate to the aerodrome RFF category;

Note.— Guidance on the use of a task resource analysis in determining the minimum number of RFF personnel required can be found in the Airport Services Manual *(Doc 9137), Part 1* — Rescue and Fire Fighting.

2) the training of all RFF personnel is adequate and monitored;

3) the training facilities, which may include simulation equipment for training on aeroplane fires, are available;

4) the procedures that RFF personnel follow are kept up to date;

c) Response:

1) the RFF service is provided with an up-to-date map of its response area, including the access roads;

2) the response time complies with the applicable Directive and is regularly tested. This check should be formalized in the RFF procedures;

3) the RFF service has procedures that describe this response and ensure that in case of an incident/accident a report is written and filed;

4) a communication and alerting system is provided between the fire station, the control tower and the RFF vehicles;

d) Rescue equipment:

1) the number of RFF vehicles is consistent with the applicable Directive;

2) the RFF service has a procedure describing the maintenance of the RFF vehicles and ensuring that this maintenance is formally monitored;

3) the types and quantities of the extinguishing agents, including the reserve supply, are consistent with the applicable Directive;

4) the protective clothing and respiratory equipment provided are consistent in quality and quantity in accordance with the applicable Directive, and the respiratory equipment is properly checked and their quantities formally monitored;

5) specific rescue equipment is provided in adequate number and type when the area to be covered by the RFF service includes water;

6) any other equipment required by the applicable Directive is provided in sufficient number.

2.3 Wildlife hazard management

The following checks on wildlife hazard management can either be a technical inspection or included in the audit of the aerodrome operator's procedures:

a) The required equipment is provided;

b) Fences are provided as required;

c) The aerodrome operator has a procedure describing the actions taken for discouraging the presence of wildlife, including:

1) who is in charge of those actions and what their training is;

2) how and when these actions are carried out, including reporting and filing of these actions;

3) what equipment is used to conduct these actions;

4) analyses of the aerodrome vicinity and the preventive actions to be taken subsequently to discourage wildlife;

5) monitoring of these actions, including, where applicable, the conduct of appropriate wildlife assessments;

6) coordination with ATS;

d) The aerodrome operator has a procedure to:

1) record and analyse the incidents involving wildlife;

2) collect the wildlife's remains;

3) monitor the corrective actions to be taken subsequently; and

4) report to the Authority incidents involving wildlife.

3. ON-SITE VERIFICATION OF THE OPERATOR'S PROCEDURES AND SMS

3.1 On-site verification of the operator's procedures

On-site verification of the aerodrome operator's procedures should include the following:

a) Aerodrome data and reporting:

1) completeness, correctness and integrity of the data reported in accordance with the AIP including:

i) data collection, including the status of the movement area and its facilities;

ii) data validity checks;

iii) data transmission;

iv) changes to published data, whether permanent or not;

v) checks of the information once published;

vi) information update after construction works;

2) formal coordination with ATS;

3) formal coordination with the aeronautical information services;

4) publication of the required information in the aeronautical publication;

5) information published in accordance with the situation on site;

b) Access to the movement area:

1) an up-to-date plan clearly showing all the access points to the movement area;

2) a procedure describing the inspection of access points and fences;

Note.— Procedures for access to the manoeuvring areas are often markedly different from those for the apron areas.

c) Aerodrome emergency plan:

1) an up-to-date aerodrome emergency plan;

2) regular exercises in relation to the emergency plan;

3) a procedure describing the tasks in the emergency plan;

4) the aerodrome operator regularly verifies the information in the emergency plan, including keeping an up-to-date list of the persons and contact details in the emergency plan;

5) a procedure describing its roles and responsibilities during emergencies;

6) a procedure describing the involvement of, and coordination with, other agencies during emergencies;

7) the required minimum emergency equipment is available, including an adequately equipped emergency operation centre and mobile command post;

d) RFF:

1) a technical inspection of the various elements of the RFF services in 2.2 b) is held prior to the audit;

2) the checks that are to be done during the aerodrome operator's on-site verification consist only of verifying the timely implementation of the corrective action plan subsequent to the technical inspection;

3) if on-site verification reveals new deviations, they should be included in the on-site verification report;

e) Inspection of the movement area:

1) a procedure to ensure there is coordination with ATS for the inspection of the movement area;

2) describe the inspections, if performed by the aerodrome operator, including:

i) frequency and scope;

ii) reporting, transmission and filing;

iii) actions to be taken and their monitoring;

3) assess, measure and report runway surface characteristics when the runway is wet or contaminated and their subsequent promulgation to ATS;

f) Maintenance of the movement area:

1) a procedure to periodically measure the runway surface friction characteristics, assessing their adequacy and any action required;

2) ensure there is a long-term maintenance plan, including the management of the runway surface friction characteristics, pavement, visual aids, fencing, drainage systems and electrical systems and buildings;

g) Snow and ice control, and other hazardous meteorological conditions:

1) at aerodromes subjected to snow and icing conditions:

i) the aerodrome operator has a snow and ice control plan, including the means and procedures used as well as the responsibilities and criteria for closing and reopening the runway;

ii) there should be formal coordination for snow and ice removal between the aerodrome operator and ATS;

2) for other hazardous meteorological situations that may occur at the aerodrome (such as thunderstorms, strong surface winds and gusts, sandstorms), the aerodrome operator should have procedures describing the actions that have to be taken and defining the responsibilities and criteria for suspension of operations on the runway;

3) the aerodrome operator has formal coordination with the meteorological service provider in order to be advised of any significant meteorological conditions;

h) Visual aids and aerodrome electrical systems:

1) if the aerodrome operator is responsible for the maintenance of visual aids and electrical systems, procedures exist describing:

i) the tasks — routine and emergency ones, including inspections of luminous and non-luminous aids and their frequency and power supply maintenance;

ii) reporting, transmission and filing of reports;

iii) monitoring of subsequent actions;

iv) coordination with ATS;

2) if the aerodrome operator is not in charge of maintenance of visual aids and electrical systems, the organization in charge needs to be clearly identified, ensuring there are formal coordination procedures with the aerodrome operator, including agreed objectives;

3) obstacle marking is taken into account;

i) Operational safety during aerodrome work:

1) when executing work on the aerodrome:

i) a procedure describing the necessary notification to the different stakeholders;

ii) risk assessment of the aerodrome work;

iii) roles and responsibilities of the various parties, including their relationship and the enforcement of safety measures;

iv) safety monitoring during the work;

v) reopening of facilities, where relevant;

vi) necessary coordination with ATS;

j) Apron management. When an apron management service is provided:

1) a procedure to ensure coordination with ATS;

2) the use of acceptable aeroplanes for each parking stand formally identified;

3) a compliant apron safety line is provided;

4) general safety instructions for all the agents on the apron area;

5) the placement and pushback of the aeroplane;

k) Apron safety management:

1) a procedure for the inspection of the apron area (see j));

2) there is coordination with other parties accessing the apron, such as fuelling companies, de-icing companies and other ground handling agencies;

l) Vehicles on the movement area:

1) a procedure to ensure the vehicles on the movement area are adequately equipped;

2) the drivers have followed the appropriate training;

3) if the aerodrome operator is responsible for the training of vehicular drivers on the manoeuvring area, an appropriate training plan, including recurrent training and awareness actions, is available;

4) if the aerodrome operator is not in charge of this training or some of this training, the service provider is clearly identified and there is formal coordination between them;

Note.— Guidance on the knowledge required by operators of vehicles can be found in Annex 14, Volume I, Attachment A, section 19.

m) Wildlife hazard management. Checks on wildlife hazard management can either be a technical inspection or included in the on-site verification of the operator's procedures:

1) if the domain has not been inspected during the technical inspections, the on-site verification team should check the points listed in 2.3 c) above;

2) if a technical inspection has been carried out prior to the on-site verification, the latter consists in checking the timely implementation of the corrective action plan subsequent to the technical inspection;

3) if the on-site verification reveals new deviations, these have to be included in the on-site verification report;

n) Obstacles:

1) a procedure to ensure that there is an obstacle chart;

2) a procedure for obstacle monitoring describing the checks, their frequency, filing and follow-up actions;

3) a procedure to ensure that the obstacles do not represent a danger for safety and that appropriate action is taken when required;

o) Removal of a disabled aeroplane:

1) there is a plan for the removal of a disabled aeroplane describing the role and responsibility of the aerodrome operator, including the necessary coordination with other agencies and the means available or that can be made available;

p) Low visibility operations:

1) there is coordination between the aerodrome operator and ATS, including awareness of the status of both low visibility procedures (LVP) and the deterioration of visual aids;

2) a procedure describing the actions to be taken when LVP is in process (vehicle control, visual

range measurement if necessary);

3.2 On-site verification of the SMS

a) As a minimum, the items to be in place when granting the initial certification are:

1) safety policy: a safety policy has been endorsed by the accountable executive to reflect the organization's commitments regarding safety;

2) operator's organizational structure: the aerodrome operator has appointed an accountable executive and a safety manager;

b) The safety manager should be independent from any operational task regarding aerodrome safety. The criteria for assessing the operator's SMS structure might be tailored to the size of the operator, notably concerning the independence of the safety manager;

c) The capability and competence of the aerodrome operator should be assessed so as to ensure sufficient management commitment to and responsibility for safety at the aerodrome. This is usually achieved through the competence of the accountable executive;

1) responsibilities and assignments: the aerodrome operator has formally defined the responsibilities of each staff member regarding safety as well as the lines of responsibility;

2) training: the aerodrome operator formally monitors the staff's and subcontractors' training, ensuring that it is adequate, and takes action when necessary;

3) accident and incident reporting: the aerodrome operator has a procedure ensuring that:

i) incidents are reported by staff and subcontractors, including a description of the actions in place in order to be able to report them;

ii) incidents are promptly analysed and the actions to be subsequently taken are monitored;

iii) the reports and analyses of the incidents are filed;

iv) incidents are reported to the State;

v) coordination is in place with other stakeholders;

4) existing hazards at the aerodrome: a procedure in order to identify, analyse and assess hazards to the safe operation of aeroplanes and to put in place suitable mitigating measures;

5) risk assessment and mitigation of changes: a procedure ensuring that for any change at the aerodrome, its impact on safety is analysed, listing the subsequent hazards that could be generated. This procedure describes who conducts the analysis, when and how the hazards are monitored, what actions are subsequently taken, and the criteria leading to the analysis. These assessments are filed;

6) safety indicators: the aerodrome operator sets and monitors its own safety indicators that illustrate its safety criteria, in order to be able to analyse the potential deficiencies;

Note.— Ensure coordination with previous safety indicators as set by the State.

7) safety audits: the aerodrome operator has a safety audit programme in place which includes a training programme for those involved;

8) safety promotion: the aerodrome operator should have a process to promote safety-related information.