



GHANA  
CIVIL AVIATION AUTHORITY

# ADVISORY CIRCULAR AC 14-016

## EVALUATING IMPACT OF CHANGE ON SAFETY

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### 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

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.

### REFERENCE

The Advisory Circular relates specifically to Parts 24, 25, 26 and 27 of the GCADs and or GCADs and Manual of Standards (MOS).


### STATUS OF THIS AC

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

### FOREWARD

This document provides guidance to Aerodrome Operators and persons proposing any kind of construction or alteration described in GCAD 27.11.

**APPROVAL**

Issue No : 01	Approved by:  _____ Director-General	_____ 2015
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### **1.1. INTRODUCTION**

The Ghana Civil Aviation Authority (GCAA) must be informed in advance of any development proposed at certified aerodromes. Part 24 of GCAD requires an aerodrome operator to notify GCAA in writing before effecting any change to the aerodrome facility or equipment or level of service.

### **1.2. WHY NOTICE IS REQUIRED**

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

### **1.3. PROJECT REQUIRING NOTICE**

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

- a. Construct, realign, alter, activate or deactivate any runway or other aircraft landing or take-off area of an airport.
- b. Construct, realign, activate, deactivate, abandon, or discontinue using a taxiway associated with a landing or takeoff 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

### **1.4. HOW TO SUBMIT NOTICE**

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

### **1.5. AIRSPACE UTILISATION CONSIDERATION**

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

- ✓ Existing or contemplated traffic patterns of neighboring airports;

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- ✓ 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.

### 1.6. CONTENT OF THE DEVELOPMENT PROPOSAL REPORT

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

- a. **Scope of Work.** This paragraph provides a brief outline of the scope of the works involved in this development, the purpose being to present an overall picture of the extent of the proposal.

- b. **Schedule of Work.** A list is required detailing the planned start and finish dates of each phase, and the planned hours of operation preferably in UTC. For example

Terminal Building works commence 23 April 2000? To finish by November 2000?  
Taxiway works commence 18 May 2000? To finish by April 200?

Terminal day working only 07:30 to 1900 Monday to Friday  
0800 to 1800 Sat to Sunday  
All times are UTC

or

Taxiway night working only 21.00 UTC to 06.00 UTC Monday to Friday nights inclusive

- c. **Outline Plans and Drawings.** Outline plans should be available to GCAA before the initial development meeting (IDM), in sufficient time to allow the various departments to consider the impact the development may have on their particular disciplines. This will help to ensure the IDM and subsequent meetings achieve the maximum benefit

The Plans must include the means to determine that the requirement of the applicable MOS have been complied with.

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

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

- d. **Airspace Issues.** Some developments will have an impact on Airspace, Arrival and Departure, Circling, and Missed Approach procedures. It is essential that GCAA be advised of such development proposals as early as possible. GCAA would wish to see that the report considered such implications, together with any effect the

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development may have on aerodrome equipment e.g Approach Lighting, PAPI positioning and Navigation Aids. Survey information must be provided if procedures need to be changed.

- e. **Air Traffic Control.** Consideration should be given to the fact that developments frequently affect the ability of air traffic control providers to maintain the required levels of safety, both during and after the process. As a result, the report should consider:

- ✓ The line of sight implication from the ATC tower to the development area, in good and reduced visibility conditions.
- ✓ Any tendency for reflective surfaces to distract or dazzle Controllers.
- ✓ Any potential increase in ATC workload either temporarily or permanent.
- ✓ Any effect the development may have on Lighting Control and ATC procedures

The development plan should indicate that consultation with the aerodrome's air traffic control provider has taken place, and a representative of the provider should be invited to attend development meetings where appropriate.

- f. **Bird Hazard Risk and Environmental Impact Assessment.** Development that includes landscaping schemes should be assessed for their impact on the Bird Hazard risk to the aerodrome.

EIA report presented to the relevant environmental authorities and the attendant approval obtained from the authority should be provided as a separate attachment to the report

- g. **Manuals.** The proposal should indicate that the project team has considered what alterations should be made to the aerodrome manual and other affected documents.

- h. **Hazard Appraisal and Risk Assessment.** The report should show the method used to assess the risks and hazards associated with the development. The conclusions should be clearly stated and preferably summarized, and copies of supporting documents and statement should be included. Guidance on the conduct of safety risk assessment is contained in the GCAA Advisory circular: GCAA-AC-031

- i. **Any Special Safety Measures.** Each development is unique. The development team should show that the project has been assessed to determine what special safety measures may be required, and what actions are planned that is deemed to be appropriate.

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- j. **Focal Points.** The report should list the name position and contact telephone number of the person who holds overall responsibility for the project and the name of the person within the aerodrome management who would be the focal point of contact for the project. The focal point of contact within the GCAA is the Director, Safety Directive and Head, Aerodrome Safety and Standards (ASAS).
- k. **Annexes.** The list of attachments, drawings and appendices should be included accordingly.

### **1.7. COORDINATION WITH INTERESTED PERSONS.**

As part of the review of the aeronautical study, GCAA 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.

### **1.8. DETERMINATION.**

GCAA shall review the development proposal study report conducted by the operator. The purpose of a review of the report is to give to the proponent in the form of a GCAA 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).

### **1.9. STATE AND/OR LOCAL REPORTING REQUIREMENTS.**

A GCAA determination does not relieve the proponent of responsibility for compliance with any local law, ordinance or Directive, or state or other local Directive.

### **1.10. 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.

### **1.11. INITIAL ACTIONS**

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

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- b. For major projects an Initial Development Meeting (IDM) will be held to brief the GCAA 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 GCAA are invited to attend.
  - c. Although consultants may attend development meetings, GCAA will only deal directly with the aerodrome certificate holder or their management representatives, at least one of whom should always be in attendance. GCAA will not deal with consultants directly unless the Director, GCAA agrees that this is absolutely necessary for the advancement of a project.
  - d. Developing meetings will be arranged between the GCAA representative and the aerodrome coordinator as and when they are deemed necessary by either party. Subsequent meetings may not involve all the participants from the IDM, but major participants including at least one representative of the licensee must attend. It may also be useful to arrange at least one meeting at the aerodrome. This is essential in the case of major aerodrome development.

#### **1.12. WORK SAFETY PLAN**

The work safety plan is a major tool for managing safety risk during the development process. A work safety plan is required for a major development project. The manual of aerodrome standards contains standards for the safe conduct of aerodrome works. It is required that a work safety plan be developed and submitted to the GCAA for review and acceptance before commencement of the project. Detailed guidance for the development of a work safety plan/ Plan Construction Operation (PCO) is contained in GCAA advisory circular numbered GCAA-AC-013, which also incorporates template work safety plan. The following areas would normally be addressed in the safety plan:

- ✓ Minimum disruption of standard operating procedure for aeronautical activity
- ✓ Clear routes for fire fighting and rescue stations to active airport operations (AOAs) and safety areas
- ✓ The airport operator must meet test response time specified in the aerodrome standards manual 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.



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- ✓ 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 personnel and 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.

### **1.13. NOTICE OF COMPLETION.**

The proponent of an airport proposal shall notify GCAA by “Letter” within 15 days after completion of the project.